FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

MARCH, 1954

OHIO STATE UNIVERSITY
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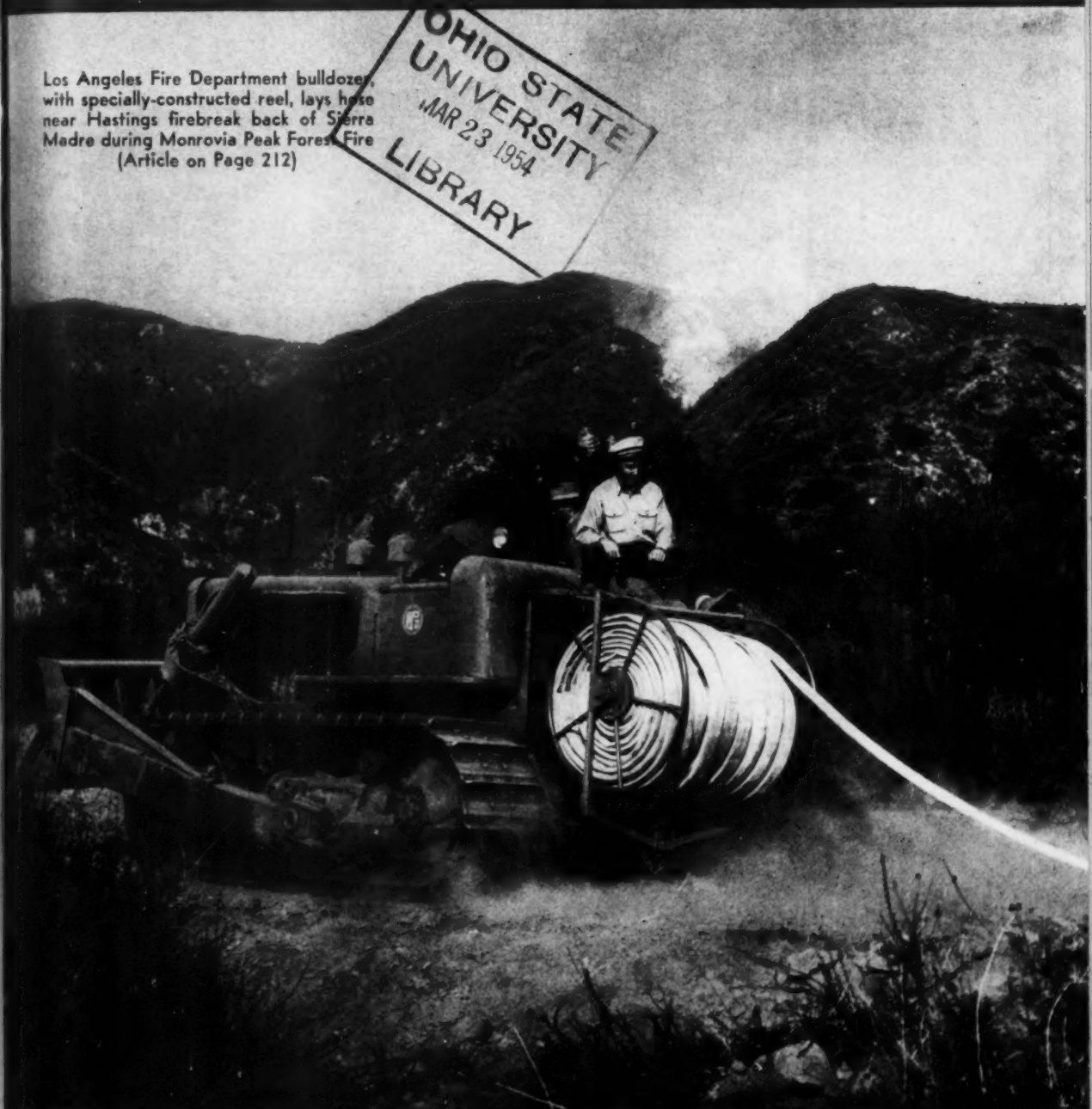
Los Angeles Fire Department bulldozer, with specially-constructed reel, lays hose near Hastings firebreak back of Sierra Madre during Monrovia Peak Forest Fire
(Article on Page 212)



A CASE - SHEPPERD - MANN PUBLICATION

is Your Community protected

by the MOST EFFECTIVE resuscitating apparatus known to Science?

EMERSON Resuscitators

SIMPLE to operate, with no complicated adjustments.

SAFE for adults, children, or infants. There is no record of lung injury from the pressures used in thousands of cases in more than ten years.

EFFECTIVE The suction phase, alternating with the positive phase, helps circulation and can be of life-and-death importance, especially to victims in shock.

ACCEPTED by the American Medical Association for use by laymen (A.M.A. Journal, May 30, 1942). Relied on from coast to coast by thousands of leading hospitals and fire departments.

Write for our free

Medical Reference on Resuscitation

Information and Demonstration

Bulletin on a New Manual Method of Artificial Respiration

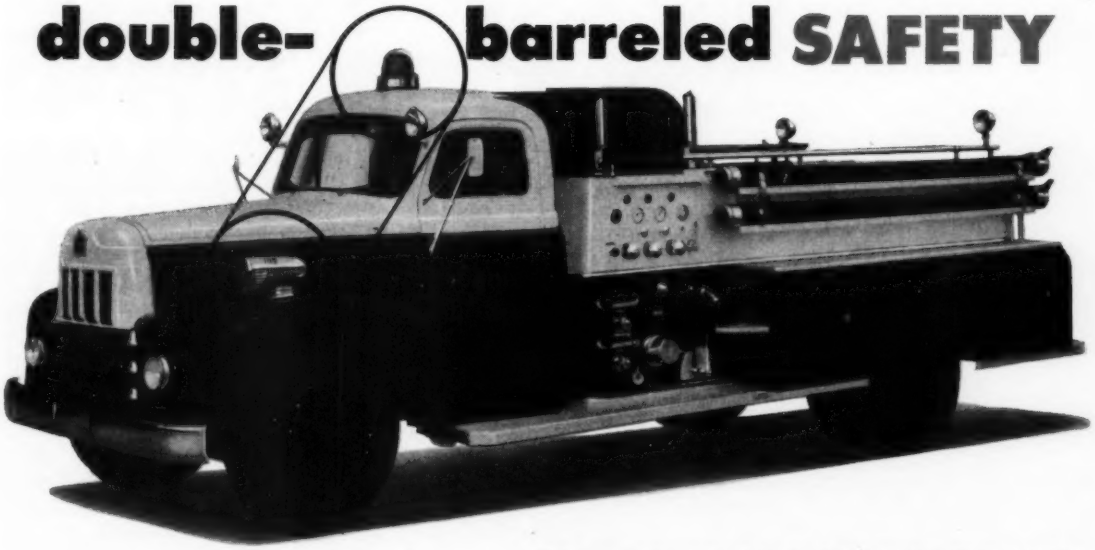
"Simplest and Safest"

J. H. EMERSON COMPANY

32 COTTAGE PARK AVENUE, CAMBRIDGE 40 MASSACHUSETTS

Now...

double-barreled SAFETY



High-pressure fog and volume fire-fighter by John Bean of Lansing, Mich. Equipped with a 500 gal. water tank, high-pressure pump developing 850 pounds at the pump and a volume pump that can deliver up to 750 gpm. Five full-size storage compartments for supplementary equipment and rear fill hopper that makes filling easy.

for a *two-fisted* FIRE FIGHTER!

This nimble-footed fighter goes into action with a rush and a thoroughness that is not to be denied. For every precarious mile it travels, FEDERAL is "on duty" against the danger of collision. The double-barreled team of FEDERAL warning signals, the famous FEDERAL Beacon Ray light and the FEDERAL Coaster Siren, commands instant alertness even when the unit is standing still.

Beacon Ray's twin-beam flashing in a 360° arc catches the eye and the Coaster siren's scream rises above high-level traffic noises to alert the ear.

When you find out the relatively low cost per unit for the FINEST warning protection — you'll realize that good common sense demands that your precious equipment be protected by the best — FEDERAL!

BE SURE — SPECIFY FEDERAL TODAY!

FEDERAL ENTERPRISES, Inc.

formerly: Federal Electric Company, Inc.

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FIRE ENGINEERING

A Consolidation of FIRE AND WATER ENGINEERING, THE FIRE ENGINEER, FIRE PROTECTION *and* FIRE SERVICE

FRED SHEPPERD
Editor

ROI B. WOOLLEY
Assistant Editor

CONTENTS

Vol. 107 — March 1954 — No. 3

	Page
With the Editor By Fred Shepperd	211
Bulldozers and Helicopters Aid in Checking Hugh Forest Fire By Cliff Dekter	212
Volunteers Make Good Stop at College Auditorium Fire By Fred Frechette	215
Plant Fire Protection Pays in Huge Wood Products Mill By John J. Lemon	217
Fire Service Ventilation in Principle and Practice By Roi B. Woolley	219
The Helmet—The Badge of the Fire Fighter By John Orner, Jr.	224
Rural Fire Department Built to Meet Local Conditions	226
News of the Manufacturers	232
False Alarms	234
The Round Table Shifting Trends in House Watch	240
Questions and Answers	246
Among the Buffs By Paul C. Ditzel	248
World-Wide Fire News By Roi B. Woolley	249
Persons in the News	252
Convention Dates	258
Short Cuts and Gadgets	264
The Watch Desk By Roi B. Woolley	266
What's Burning?	268

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The Old School

THIS is about that very small segment of the Fire Service—"the Fireman of the Old School." Those estimable fire officers who are living and thinking in terms of yesteryears—who have a universal answer to every proposed innovation in the Fire Service: "Don't stick your neck out—let well enough alone."

● We have no quarrel with them. Many were, and still are doughty firefighters. But somewhere along the line they lost their desire to have the best fire department in the world, and their thoughts and aims and hopes got sidetracked for visions of retirement and the relaxation many so well deserve.

● Our wishes go with them for that future. May their retirement be on schedule and enjoyable.

● This isn't meant as an unkind message: many of those veterans have taken this Journal since probationary days. They know we mean them well. But they know that the Fire Service must go on; improvements must continue to come, and be adopted by their successors. And they know that these improvements will be talked about and advertised in FIRE ENGINEERING as they have for over three quarters of a century.

The Publishers

FIRE ENGINEERING

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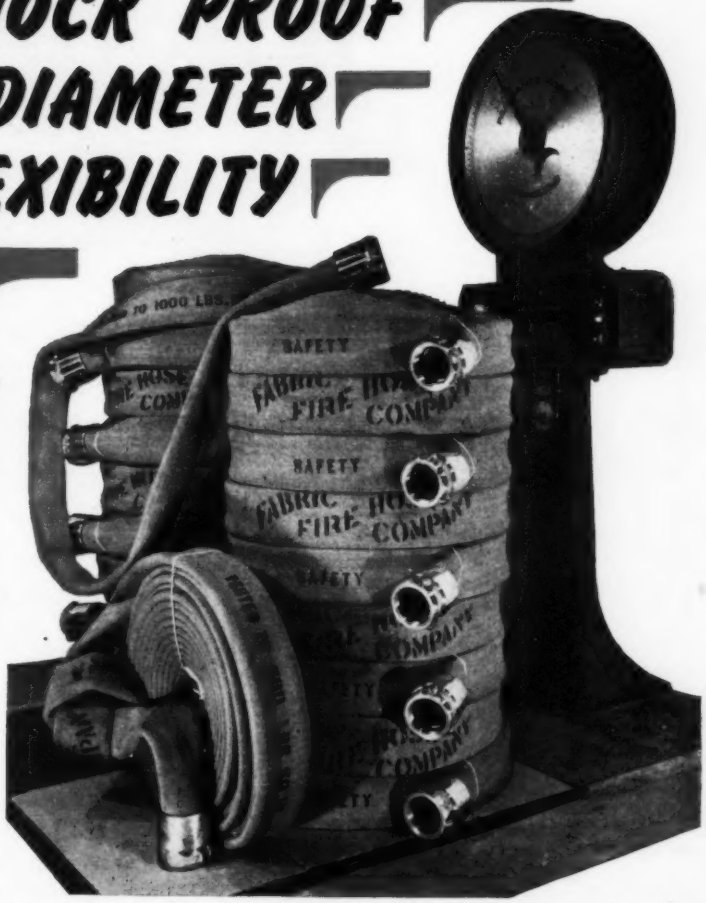
"Specialized Leadership"

FABRILON

DOUBLE SURFACE JACKETS
PRESSURE SHOCK PROOF
SMALL COIL DIAMETER
SUPREME FLEXIBILITY



STRENGTH
LIGHTWEIGHT
MG
BLOW PROOF
COUPLINGS
10% LESS
FRICTION LOSS PER SECTION

Here is 1000 feet of 2½" FABRILON hose of assorted types, ready for shipment. This is a fire hose in which every ounce of extremely high grade materials is combined by skillful design so as to give great strength per pound of materials used. It is so flexible you can tie it in a knot, yet so strong a terrific pressure shock will not burst it. In practical fire fighting, FABRILON means *no more pressure breaks, no more ruptured hose, no more blown couplings,* absolutely *safe* hose lines.

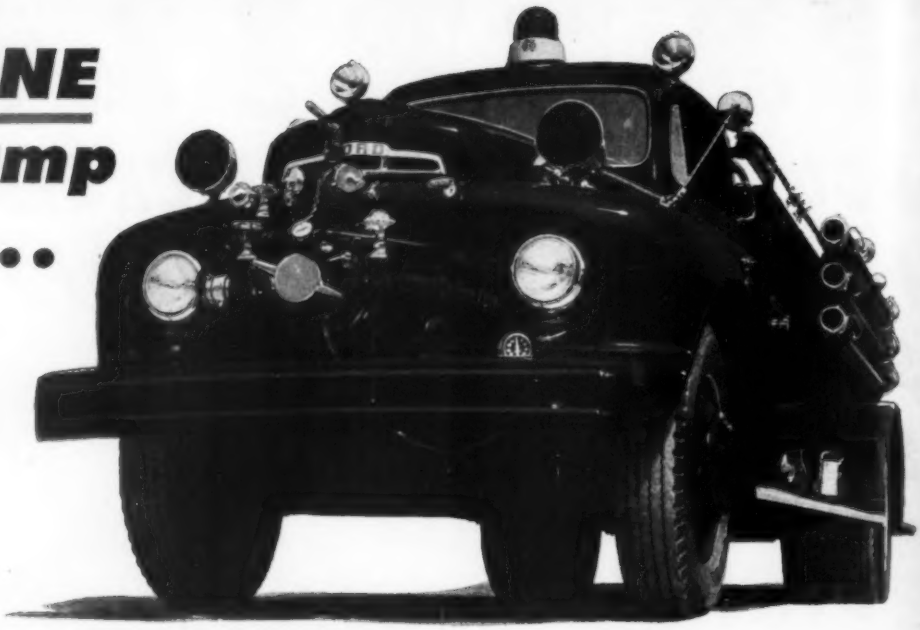
FABRIC FIRE HOSE COMPANY

THE ONLY EXCLUSIVE MANUFACTURER OF FIRE HOSE IN AMERICA

SANDY HOOK CONNECTICUT

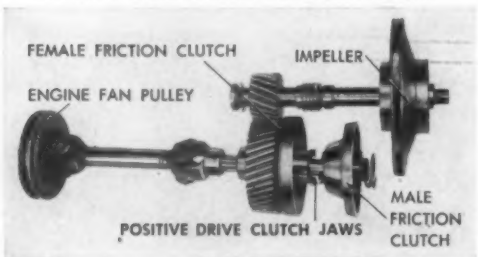
IN CANADA BICKLE-SEAGRAVE, LTD. WOODSTOCK, ONTARIO

only ONE fire pump has it...



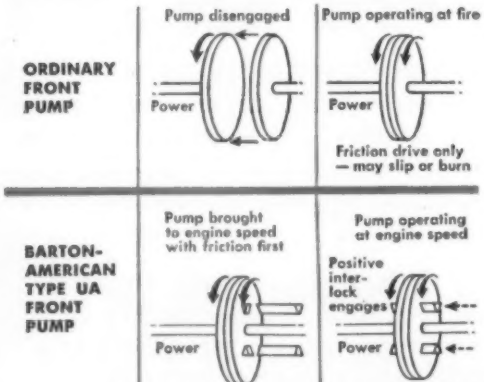
THE CLUTCH THAT *CAN'T* SLIP!

PUMP OPERATING POWER TRAIN



Gear-driven centrifugal design . . . pressures to 400 pounds for high-pressure Super-Fog Guns or large straight streams.

DIAGRAM — SIMPLIFIED TO SHOW BASIC PRINCIPLE OF POSITIVE DRIVE CLUTCH



That's right — you'll never stand helpless at a fire with a slipping or burned-out pump clutch — if you're operating a Barton-American Type UA Front Mounted Pump!

This clutch *can't* slip, because it has an *exclusive,* positive interlocking feature. The friction surfaces merely bring pump up to engine shaft speed. Then the interlock takes over . . . and you have unfailing positive drive. The *only* front pump that provides this *extra* safety feature is the Barton-American Type UA!

BETTER DESIGN GIVES BETTER PERFORMANCE

Other superior features include well-designed, dependable frost-proof construction that adds extra summer cooling capacity too . . . rugged, top-quality pump construction . . . fully automatic, frost-proof, engine vacuum primer . . . convenient controls . . . and dual universal joint spline-shaft power take-off.

These items, plus our *exclusive* Service Pump Plan are fully described in the Type UA Pump Bulletin.

WRITE FOR YOUR COPY OF BULLETIN 8330-A.

AMERICAN-MARSH PUMPS

BATTLE CREEK MICHIGAN

In Canada:
American-Marsh Pumps (Canada) Ltd., Stratford, Ont.

RESEARCH KEEPS **B.F.Goodrich** FIRST IN RUBBER

B. F. Goodrich ends threat of hose blowouts in the coupling area

MOST firemen agree, the coupling area is the danger zone in fire hose. That's where, in ordinary hose, cracks and blowouts occur due to pressure, flexing, strain.

In B. F. Goodrich hose this cause of hose failure has been eliminated by adding an extra layer of hard-woven cords that extends 12″ back from each end of the hose. This extra cushion of cord protects the tube from damage when the hose is being coiled or hooked up. As a result not one single length of B. F. Goodrich hose with end protection has ever failed in the coupling area.

End protection is one big reason why the Covington (Tenn.) Fire Department changed to Fire King. But after using it two years, Chief Thomas Shoaf (center, above) and his men are just as enthusiastic about Fire King's light weight and flexibility. They have found that Fire King gets into action faster and is far easier to handle, whether unloading at a fire or racking the hose back at the station.

Fire King is 15% lighter, much more flexible because of a chemically-produced fiber. B. F. Goodrich uses this fiber as "filler" cords—the cords that go around the hose and give it strength to take on top pressures. Actual service tests prove that Fire King, tested to 600 pounds pressure, is 50% stronger than standard fire hose, which is tested to only 400 pounds.

Next time you're replacing or adding hose, ask your BFG Fire Hose Distributor to show you a sample of Fire King. Compare it with your present hose for light weight, ease of handling and the end protection feature. Prove to yourself that this B. F. Goodrich hose is your best buy. *The B. F. Goodrich Company, Dept. M-207, Akron 18, Ohio.*

B.F.Goodrich
INDUSTRIAL PRODUCTS DIVISION

EWING GALLOWAY

Recognized Everywhere...

WHEREVER YOU LIVE, you recognize this view of New York, a great city, famed for its skyscrapers. And New York recognizes the Leece-Neville Alternator . . . it is doing a great job every day on that city's fire equipment.

This is just one of the many cities where Leece-Neville Alternators are helping fight fires and save lives. You'll find them in Los Angeles, Cleveland, Denver, Dallas, Montreal, Quebec and hundreds of other cities, large and small, here and abroad.

It's easy to find the reason for this wide acceptance of the L-N Alternator. More than eight years of performance on many thousands of vehicles has proven the advantages of the Leece-Neville Alternator System in place of the conventional d.c. generator.

Two-way radio operation is surer and clearer . . . when seconds count, that's vital! With 25 to 40 amperes idling and full current output from 18 m.p.h., siren, lights, radio and other accessories are carried by the Alternator, saving the battery for starting only.

Installation of a Leece-Neville Transformer with the Alternator gives your equipment a source of 110 volt power. You can plug in standard flood lights, searchlights, portable saws, drills and other hand tools. Send for special Transformer folder.

There are L-N Alternators for 6 volt systems with capacities to 95 amperes; for 12 volt, up to 180 amperes; and for 24 volt, to 80 amperes. Be sure to specify Leece-Neville Alternators on your new equipment. Write The Leece-Neville Company, Cleveland 14, Ohio.

Custom-Engineered Electric Equipment Since 1909

you can rely on **Leece-Neville** Alternators

proved by performance for over 8 years

"The solid stream will continue to have a limited degree of usefulness but it is destined to be the secondary form of application in controlling and extinguishing fire. Progress in the tactical employment of water on the fire-ground demands that the primary form of application be that of finely divided particles."

"Had we kept to the old method of lots of water and straight streams we would have used barrels and barrels of water and perhaps would have lost the entire house. While we are not telling anyone what to use, we are firm believers that the fellows talking about fog know their fire-fighting and hope that more fire departments give it a try."

These are your words about water-fog fire fighting

*Actual statements by fire chiefs

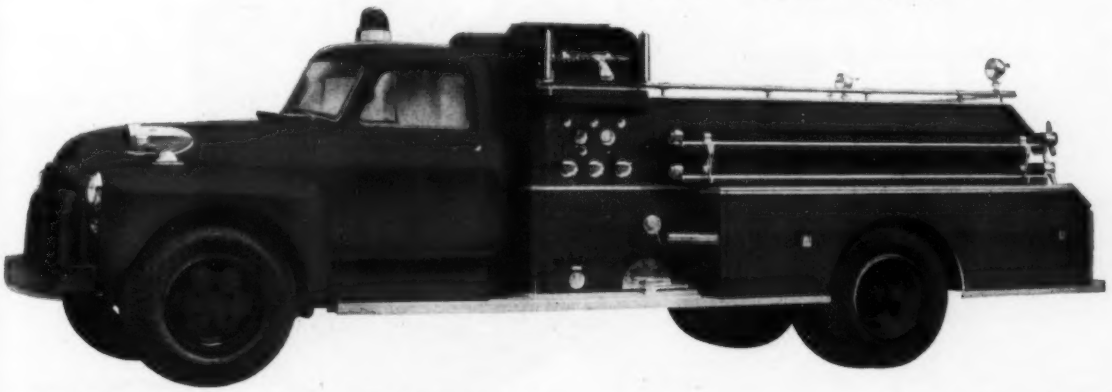
"This type of equipment (water-fog) is coming into common use in practically all of our fire departments."

"In general, the high-pressure nozzles on ¾ inch high-pressure hose reduced the temperatures much faster than the 1½ inch nozzles employed, and which were discharging at approximately the same GPM."

"We were called out to a house that was one mass of flames on the inside. The only exit for the smoke was via a fireplace chimney. Upon arriving three firemen were present. I, being the only man who had experience, set the truck, grabbed the nozzle, rushed up to the house, put the gun through one pane of glass with full fog. All flame went out as soon as the fog hit; then we opened the door and went in to make sure no more fire would ignite, using a total of 25 gallons of water."

*Sources available upon request

BUT here is the last word in high-pressure fog fire fighting



The 1954 John BEAN *high-pressure fog* FIRE FIGHTER

Can be mounted on most standard truck chassis

For complete specifications and the amazing success story of high-pressure fog write John Bean.

JOHN fmc BEAN

John Bean Division, Dept. 126, Lansing, Michigan

ORIGINAL HIGH-PRESSURE FOG FIRE-FIGHTER

A Product of Food Machinery and Chemical Corp.

NEW McCULLOCH PORTABLE PUMP

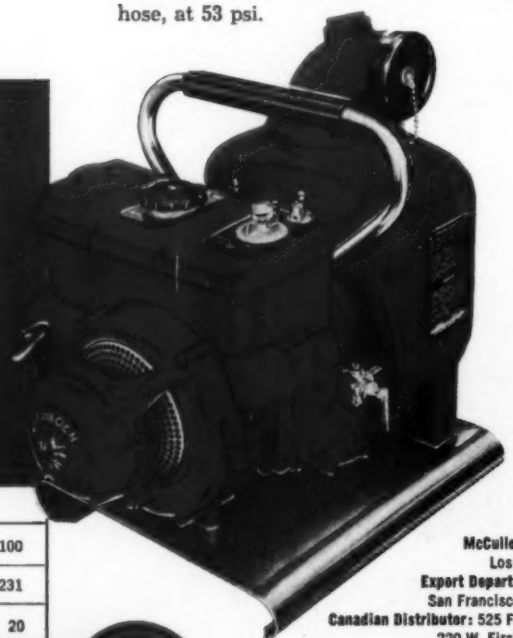
Quenches Farm Fire!

Brooder house burning! Stock tank is located 100 feet away, near the barns. The owner uses his portable McCulloch 7 FP pump to quench the fire, with two 1½ inch lines, each with ½ inch nozzles. These will throw 108 gpm on the fire, 54 gpm per hose, at 53 psi.

Model 7 FP McCulloch

CENTRIFUGAL FIRE PUMP

Weighs only 57 lb. complete!
Delivers 250 gpm!
Develops pressures over 100 psi!
Primes at 25 ft. suction lift!
Delivers fog, stream, or foam!
(all measurements in U. S. gallons)



PERFORMANCE CHART (with 10-foot suction lift)

Discharge Pressure PSI	10	20	30	40	50	60	70	80	90	100
Discharge Hd. Ft. Water	23	46	69	92	115	138	161	184	207	231
U. S. Gal. Per Minute	250	240	210	175	145	115	90	65	45	20

Send for Complete Information Today!

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Seagrave

For 50 Years It's Been

Seagrave AERIAL LADDER TRUCKS

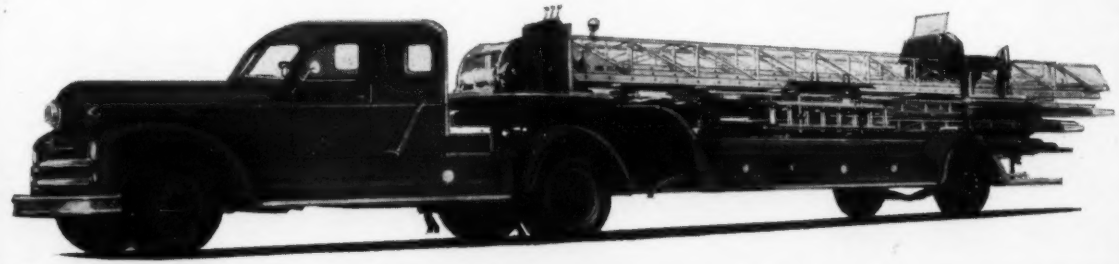
Pictured on the left is a Seagrave Aerial Ladder of fifty years ago. This horse drawn apparatus was delivered to the city of Cincinnati in 1904.

Shown below is the modern Seagrave Aerial Ladder Truck . . . one of the fourteen now in service in Cincinnati.

It is quite revealing to go over the records for the past seventy-three years and find city after city that has repeatedly bought Seagrave. A very graphic demonstration of Seagrave dependability and the confidence that Seagrave performance has built-up among the Fire Departments of America.

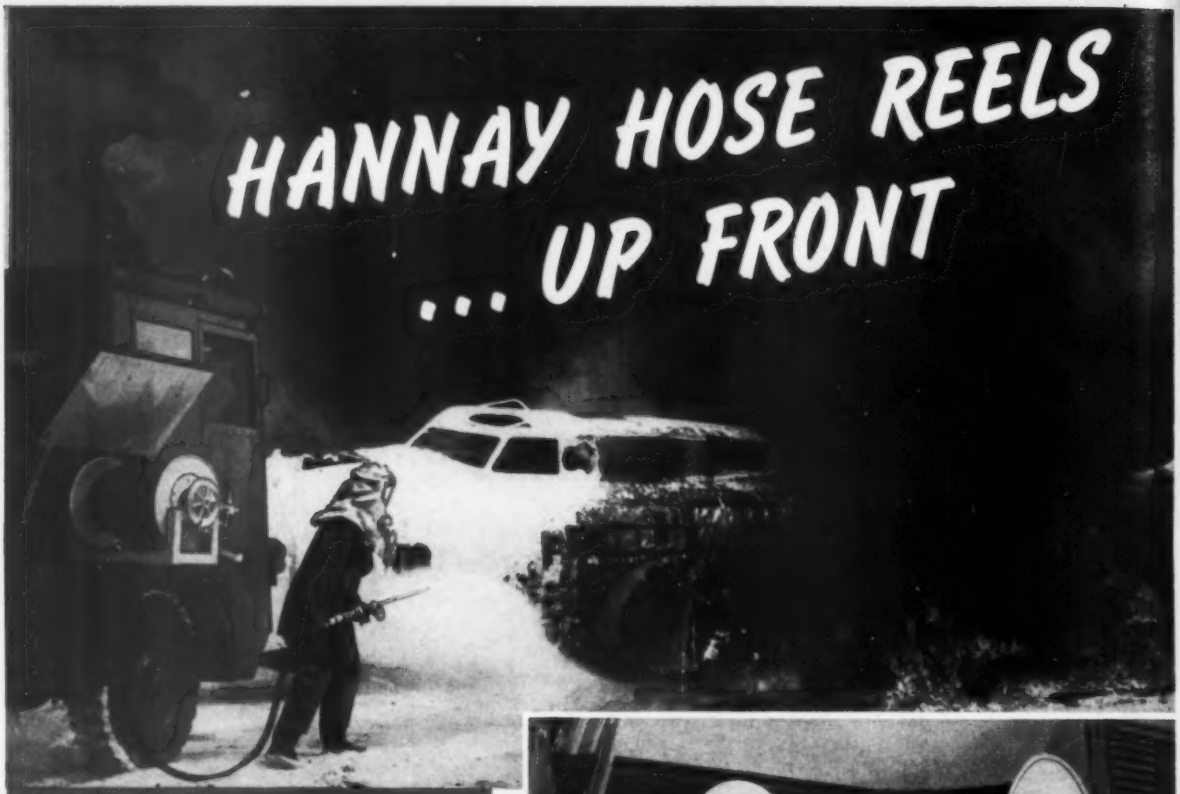
Throughout the years it has been Seagrave that has made the greatest advances in fire apparatus construction, bringing greater safety and more efficiency to the job of fire fighting.

THE SEAGRAVE CORPORATION — COLUMBUS, OHIO
BICKLE-SEAGRAVE LTD — WOODSTOCK, ONT.



THE GREATEST NAME IN FIRE APPARATUS

HANNAY HOSE REELS ... UP FRONT



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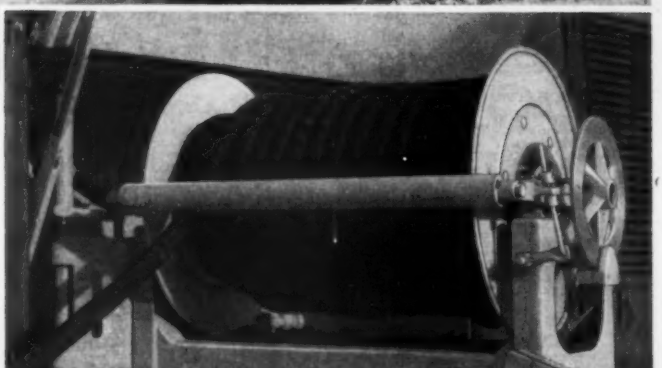

Check the Superior Advantages

HANNAY Electric Drive HOSE REELS

- WATER RESISTANT
- VAPOR RESISTANT
- EXPLOSION - PROOF

★ Extra strong; withstand high pressures

★ Explosion-proof, heavy duty motor, sealed against fog, foam, fumes, water

★ Sealed push button control; no gears to shift; no clutch to engage

★ Safe rewind speed; always under control

...LOOK FOR THIS

Yes . . . in performance and service, Hannay Hose Reels are "up front". The dramatic illustration above shows Air Force Fire Fighters spraying foam from a new American LaFrance crash truck on burning aircraft. And the reel, of course, is a Hannay, specially designed for military service. When YOU need good hose reels, standard or special performance, remember HANNAY. . . . built to do a BETTER job, in fire-fighting, in industry, in national defense.

HANNAY
REG. U.S. PAT. OFF.
HOSE REELS
CLIFFORD B. HANNAY & SON, INC.
WESTERLO, NEW YORK

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MANUFACTURERS OF MANUAL AND POWER OPERATED HOSE REELS FOR EVERY PURPOSE

Long range, solid cone of Rockwood WaterFOG snuffs out fire.

"Little Mo" knocks 'em down

He *likes* to go to blazes.

"Little Mo" — a small fire truck that's packed to the hilt with Rockwood fire-fighting equipment — streaks to fires, knocks 'em down and quenches them in seconds. Can be operated by one man, if necessary!

In the test above, fuel in a pit under the tank cars was set on fire — and more fuel poured on top of the cars from pipes. This, too, was ignited and the blaze given a minute's start. In rushed "Little Mo" — and out went the fire in 45 seconds, choked off by Rockwood WaterFOG from Rockwood's Remote Manual Control Turret. What's more, 10 inches of water still remained in "Little Mo's" 200-gallon booster tank, after the fire was out.

It's Loaded! "Little Mo's" equipment includes: 4 stage centrifugal pump with electric primer, 200-gallon booster tank, Rockwood Dual Suction Proportioning System for FOAM and "Wet", Rockwood Remote Manual Control Turret controlled from within cab, Rockwood Ground Sweep Nozzles, Rockwood Remote Control Ball Valves, 2 Hannay reels with 200 feet of high pressure hose with new Rockwood High Pressure Handline Nozzle on each reel.

Thanks to Rockwood portable fire-fighting equipment, even a small truck like "Little Mo" can battle fires with powerful efficiency. The Turret Nozzle, alone, discharges solid water stream, WaterFOG, FogFOAM, solid FOAM, "Wet" solid water, and "Wet" WaterFOG! Rockwood engineers water to cut fire losses.

Leading manufacturers of fire trucks will install Rockwood Fire Fighting Products at your request.

ROCKWOOD SPRINKLER COMPANY

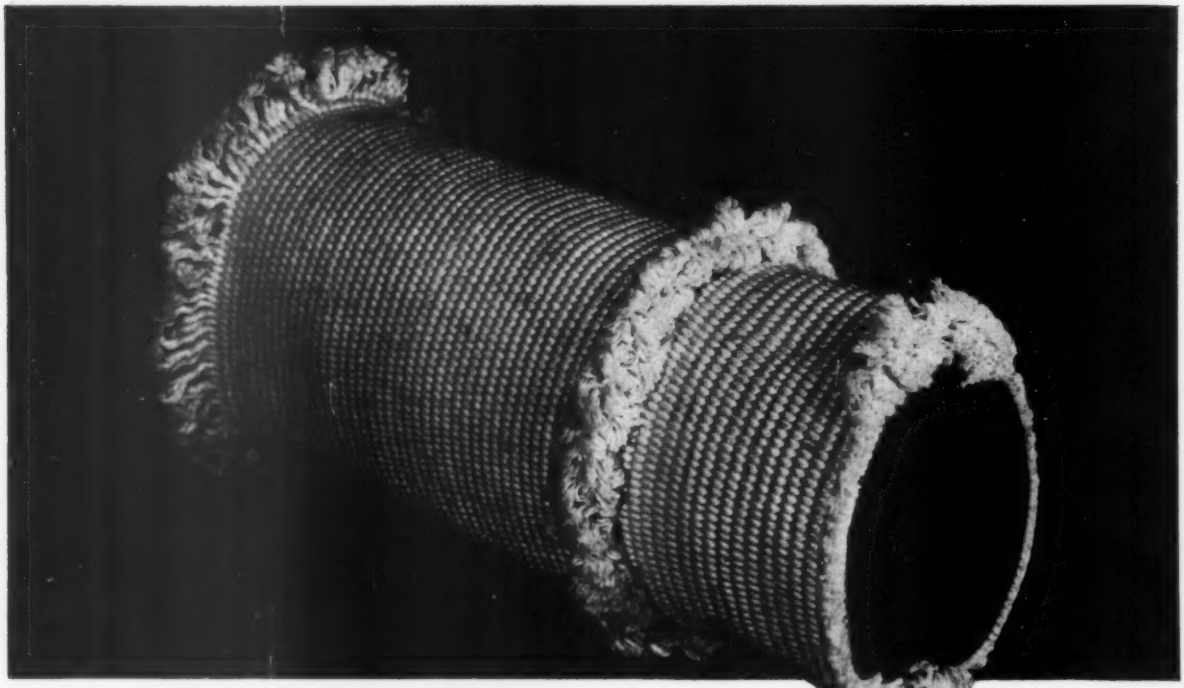
ROCKWOOD *Engineers Water . . . to Cut Fire Losses*

SEND FOR THIS INFORMATIVE BOOKLET

ROCKWOOD SPRINKLER COMPANY
Portable Fire Protection Division
54 Harlow Street
Worcester 5, Mass.

Please send me your illustrated booklet on Rockwood fire-fighting products.

Name.....
Title.....
Company.....
Street.....
City.....
Zone..... State.....



FLEXIBLE

HEWITT-ROBINS

Bi-Roll Municipal Fire Hose

Here's the hose that gives you the flexibility and safety you need for fighting fires . . . Hewitt-Robins Bi-Roll municipal fire hose.

Bi-Roll's greater flexibility means that 30% to 40% more hose footage can be stored or dispensed in a shorter time with greater handling ease and safety.

For complete information about Hewitt-Robins Municipal Hoses . . . Bi-Roll—Chemical Booster—Fog—Suction—Street and Sewer Flushing, contact Municipal Fire Hose Division, P. O. Box 974, Buffalo 5, N. Y.

HEWITT (HR) ROBINS

Executive Offices, Stamford, Connecticut

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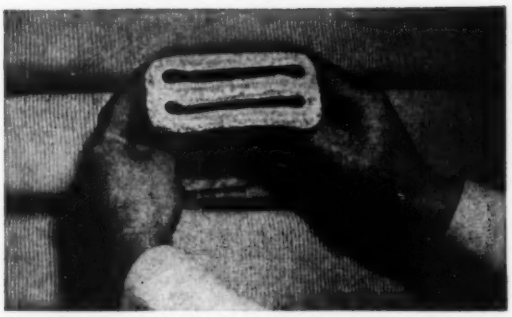
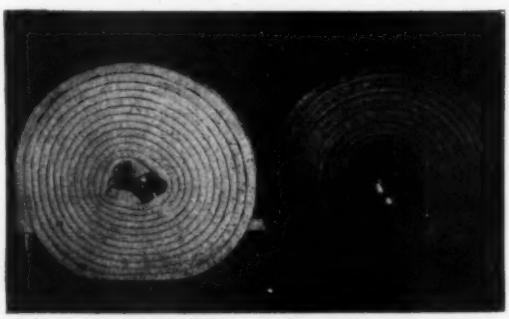


Bi-Roll . . . provides greater over-all flexibility because of its non-vulcanized point-of-fold construction . . . permits a flatter fold under light pressure . . .



Bi-Roll is available either with or without wax and gum treatment. Treated Bi-Roll provides 100% proof against mildew and rot . . . is equally pliable in hot or cold weather.

When Seconds Count!...

Count on

DUO Safety

FIRE LADDERS

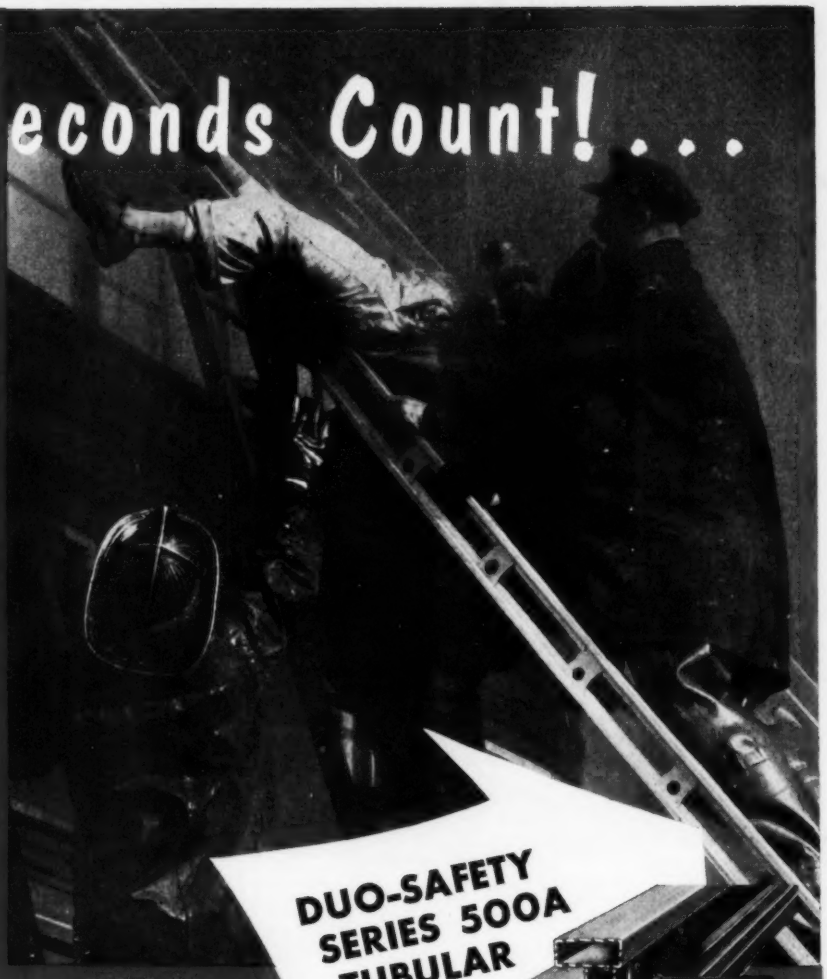


PHOTO BY PHILA. FIRE DEPT.

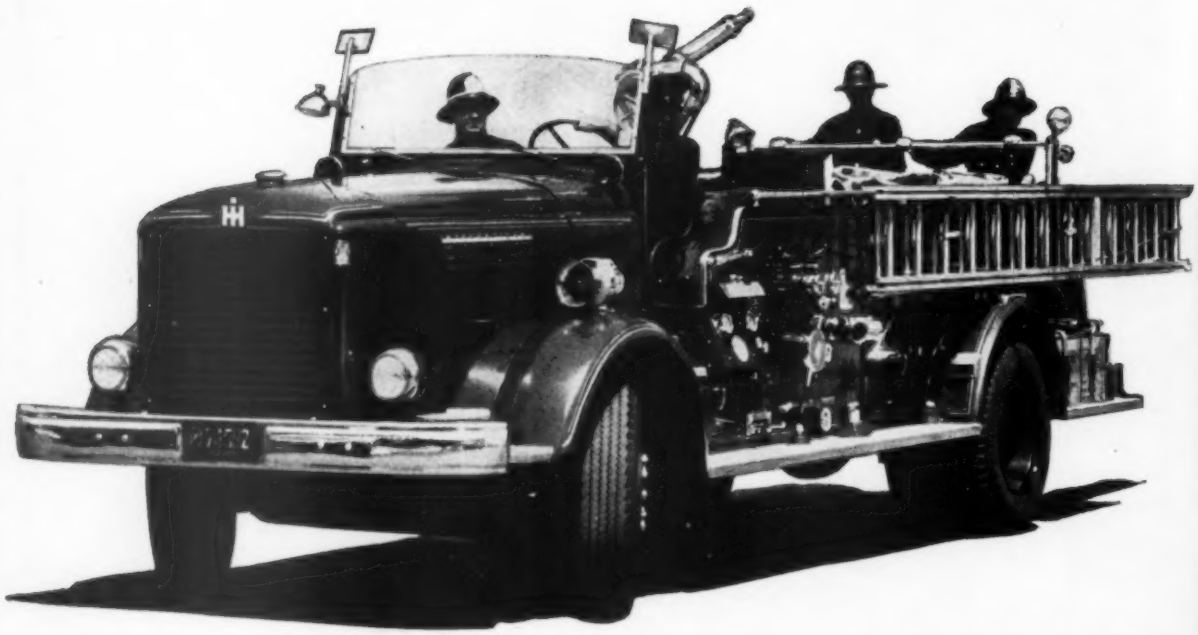
DUO-SAFETY SERIES 500A TUBULAR RAIL

Here's the proof, in action, of the superior quality, safety and dependability of the famous Duo-Safety line of aluminum fire ladders. The ladder in the above photograph, playing such an important part in the rescue of an unconscious victim, is the Duo-Safety 500 Series Tubular Rail Model. Note how straight and sturdy the rails remain, even under extreme weight. Note, too, that the absence of any projections or sharp, jagged edges provides a smooth rail surface to permit sliding the victim down safely and rapidly. Yes . . . you can count on all ladders in the great Duo-Safety line for the kind of performance that only highest quality delivers. Write today for free, colorful file catalog giving complete information.

DUO-SAFETY LADDER CORP.

809 NINTH STREET, OSHKOSH, WIS.

Designed for protection PLUS



INTERNATIONAL Model R-306 fire truck chassis with complete fire fighting equipment, including 1,250 GPM pump, 500-gallon water tank, ladders, and hose. GVW rating, 30,000 lbs. Wheelbase, 169 inches. Engine, 275-hp. gasoline.

When you put INTERNATIONAL fire truck chassis on the job in your community, you add a big *plus* to your fire control equipment.

INTERNATIONAL fire truck chassis provide extra power, speed, flexibility and safety. And they are outstandingly dependable . . . always ready to go at the first sound of the gong.

The big reason for this is that INTERNATIONAL fire truck chassis are specially designed to exceed every fire department requirement. What's more, they embody the same Tough Job engineering that has made INTERNATIONAL the heavy-duty sales leader for 22 straight years—to provide extra-long life, extra-low operating costs.

INTERNATIONAL fire truck chassis are available in seven models, in GVW ratings from 16,000 to 30,000 pounds. There's a choice of eight engines and a range of pumping capacities from 500 to 1,250 GPM.

Your INTERNATIONAL Dealer or Branch will be glad to work with you to determine the chassis best suited to the requirements of your community. And that work will start upon receipt of your visit, letter or telephone call.

INTERNATIONAL HARVESTER COMPANY • CHICAGO

International Harvester Builds McCORMICK® Farm Equipment and FARMALL® Tractors . . . Motor Trucks . . . Industrial Power . . . Refrigerators and Freezers

Better roads mean a better America

INTERNATIONAL® TRUCKS

"Standard of the Highway"

Well Balanced!

INDIAN

FIRE PUMPS

Are the "Stepping Stone" to Faster Fire Fighting . . .

You can't have a well balanced fire protection program without plenty of portable **INDIAN FIRE PUMPS.**

A man can do a lot more work when he has both hands free. Other types of extinguishers have to be carried about but an **INDIAN** slings right on the back. Uses only clear water, too!

Now is the time to check over your needs. Remember **INDIANS** last for years without maintenance. Many pumps bought way back in the 30's are still in service.

For maximum fire fighting power at a minimum of cost — choose **INDIAN FIRE PUMPS.** There is nothing else "just as good."

"Nothing Compares to the INDIAN"

"There is no fire extinguisher that anywhere near compares with the **INDIAN FIRE PUMP.** Last summer we had two bad brush fires which were brought under control with **INDIANS** alone. The only available water we had was in the **INDIAN** tanks. The wind was blowing right toward the woods and six men killed the fire down with just their **INDIAN FIRE PUMPS."**

Ray C. Whitney,
Wilton, Maine

1949 Ford chassis Boardman-Built Fire Fighter; 500 GPM, 2 stage pumper purchased by the city of Bentonville, Arkansas. It is equipped with an INDIAN FIRE PUMP. Built by The Boardman Co., Oklahoma City, Oklahoma.

All seams are electric welded. No leakage.

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243 WARD LA FRANCES...

Serve New York City Fire Department

With the delivery of 25 new pumpers, New York City will have a total of 243 Ward LaFrance fire service vehicles. Let Ward LaFrance help modernize your fire department . . . as it has the world's largest city's. Check with Ward LaFrance first when you're ready to add new equipment or replace old.

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General Office & Factory: Grand Central Ave., Elmira, N.Y.

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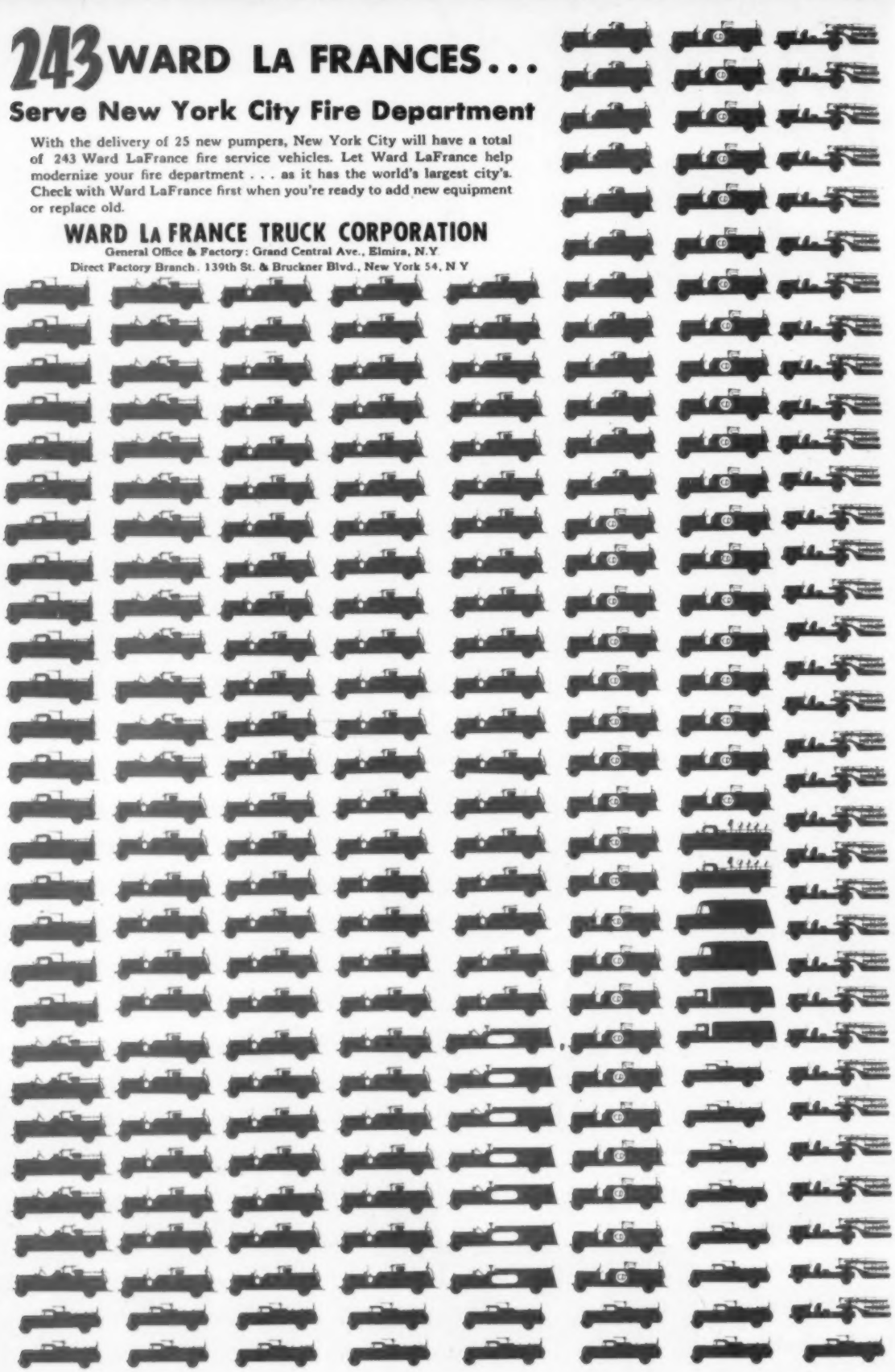

Ohio Fire Dept. Reports: **Lighter . . . stronger hose made with Dacron* is easier to rack . . . easier to handle in action**

Lighter, more flexible hose made with "Dacron" compared to conventional hose.

*REG. U.S. PAT. OFF.

"We've found the advantages of hose made with 'Dacron' are many . . . from easier racking and handling to mildew resistance," reports George Schlotterbeck, Chief of the Hamilton, Ohio, Fire Department. Above, one of the men of Company 7 demonstrates the superior racking capabilities of 600 ft. of hose made with "Dacron", over the same length of conventional hose.

"Dacron" polyester fiber is used as the load-carrying "filling" cord that reinforces the hose. The exceptional strength of this famous man-made fiber, plus its lightness and flexibility, results in a hose that offers strength with less bulk . . . that's at least 15% lighter . . . yet stronger than ordinary hose of the same diameter!

More than two years of field testing have proved the superiority of this new hose in action. It can now be purchased in volume. Before you place your next order, be sure to ask your supplier about hose made with "Dacron". E. I. du Pont de Nemours &Co. (Inc.), Textile Fibers Dept., Wilmington 98, Delaware.

ADVANTAGES OF FIRE HOSE MADE WITH "DACRON":

- Lighter
- Stronger
- More flexible
- Cuts loading time
- Saves space

DACRON

POLYESTER FIBER

DU PONT

REG. U.S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

Handclasp of a friend-in-need

There's confidence in the very "feel" of the world famous C-O-TWO Squeez-Grip Carbon Dioxide Type Fire Extinguishers. The quick-acting "Squeez-Grip" fits your hand naturally like a handclasp ... hangs right ... carries right ... works right. You're in complete command of the situation instantly ... no fumbling ... no fatigue.

From the non-conducting, shatterproof discharge horn to the high strength, durably finished cylinder, you get top quality construction that results in a lifetime of satisfactory service. Because of the very few working parts and corrosion resistant materials throughout, the total cost to you over the years is less than other initially lower priced makes ... fire after fire, recharge after recharge, without trouble.

It's not hard to see, when you fully compare and try, why C-O-TWO Squeez-Grip Carbon Dioxide Type Fire Extinguishers are your best buy for killing flammable liquid and electrical fires, as well as some surface fires involving ordinary combustible materials. Sizes range all the way from 2½ to 100 pounds capacity ... all fully approved by the Underwriters' Laboratories, Inc., Factory Mutual Laboratories, Armed Forces and Government Bureaus.

With C-O-TWO Squeez-Grip Carbon Dioxide Type Fire Extinguishers the penetrating carbon dioxide is a clean, dry, non-damaging, non-conducting, inert gas ... smothers fire instantly, leaves no after fire mess ... harmless to equipment, materials and finishes ... even food is still perfectly edible.

Act now for complete free information on these first-rate, sure-acting fire extinguishers. Remember fire doesn't wait ... get the facts today!

C-O-TWO

MANUFACTURERS OF APPROVED FIRE PROTECTION EQUIPMENT

Squeez-Grip Carbon Dioxide Type Fire Extinguishers
Dry Chemical Type Fire Extinguishers
Built-In High Pressure and Low Pressure Carbon Dioxide Type Fire Extinguishing Systems
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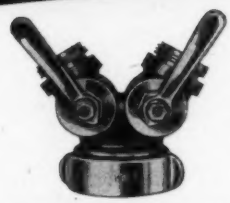
Sales and Service in the Principal Cities of United States and Canada

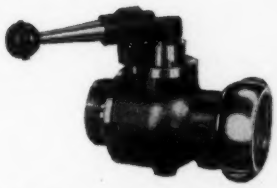
AFFILIATED WITH PYRENE MANUFACTURING COMPANY

Products for the Entire FIRE FIGHTING FIELD



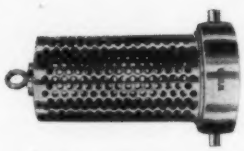
TRUMPET SIAMESE VALVES

Famous "Control-Flo" valve action, roller bearing swivel construction. Designed as short as possible (9") for apparatus body clearance. Available in 4", 4½", 5", or 6" diameter sizes.



CONTROL-FLO APPARATUS VALVE

Operates easily at any pressure, in either direction. Controls hose pressures without changing pump speed. Throttle type handle locks "Control-Flo" valve in any position.

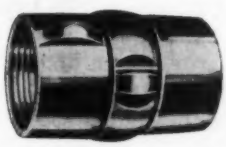


TRUMPET TUBE STRAINER

A suction strainer made of heavy cast brass throughout. The ample hole arrangements permits free suction to pump for maximum performance. Made to individual thread requirements in all sizes from 1½" through 6".

FIRE TRUCK FITTINGS

Wooster Brass can furnish highest quality truck fittings such as brackets, pole and bar holders, seat handles, hose clamp handles, axe holders, etc. Polished brass or chrome finishes available.



SKI-LUG FIRE HOSE COUPLINGS

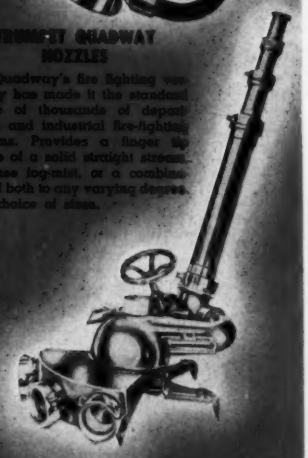
Scientifically shaped to eliminate hooking when drawing hose lines over obstructions. Pin-lug couplings also available for fire hose, mill hose and linen hose. Full rounded lug contour reduces pulling friction.

TRUMPET SUCTION HOSE COUPLINGS

Available in 3 combination handle-lug types. The high quality workmanship and finish of Wooster Suction Hose Couplings will make you proud to put them on any equipment. Made with a free-action, roller bearing swiveling feature.

TRUMPET QUADWAY NOZZLES

The Quadway's fire fighting versatility has made it the standard nozzle of thousands of department and industrial fire-fighting systems. Provides a finger tip choice of a solid straight stream, a dense fog-mist, or a combination of both to any varying degree. Full choice of sizes.



GEYSER TURRET NOZZLES

Available in 2, 3, or 4-inlet types. Can be turned in a complete circle horizontally. Full adjustable vertical range. Operates safely at lower elevation ranges.

GEYSER DELUGE DECK PIPES

Mount on apparatus or wherever permanent fire protection is needed, such as lumber yards and oil fields. Nozzle will 360° horizontal sweep and a vertical range of 10° below and 60° above horizontal.

The precision products shown here are just a few of the many items of cast brass fire equipment manufactured by Wooster Brass. Write for your catalog now . . . and consult your Wooster Brass representative for all your equipment requirements.

WOOSTER BRASS

WOOSTER, OHIO

A DIVISION OF THE FYR-FYTER COMPANY

"No more **SWING** and **SWAY** for Our Fire House Doors!"

says Chief Hobart Strathearn
Fire Department, Paterson, N. J.

"All difficulties were overcome when we installed . . . THE "OVERHEAD DOOR" TRADE MARK

In the opinion of Chief Strathearn of Paterson, The "OVERHEAD DOOR" is truly the *doorway* to better fire service!

Since The "OVERHEAD DOOR" was installed in all apparatus openings throughout the city, he reports that all troubles due to swinging or sliding doors are a thing of the past.

"Now when we have to move out in windy or snowy weather," he writes, "our doors open instantly. No longer do we have doors ripped off their hinges by wind or freezing at the bottom in a snowstorm."

Installation of The "OVERHEAD DOOR" on Paterson fire houses, the chief declares, was a wise and economical expenditure. You'll agree, once you get complete details. Write for them today, or phone your local dealer.

NATION-WIDE Sales • Installation • Service

OVERHEAD DOOR CORPORATION

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Portland, Ore. **Glendale, Cal.**

OVERHEAD DOOR THE
With Miracle Wedge Quality Leadership SINCE 1921
Only Overhead Door Company makes The "OVERHEAD DOOR" Nationwide Sales—Installation—Service
LOOK FOR THIS TRADE MARK
TRADE MARK

You'll find this famous trademark in the yellow pages of your phone book, under "DOORS." It identifies your nearby source of complete information and service.

1954—O.D.C.

AMERICAN-LA FRANCE NEW DRY CHEMICAL FIRE EXTINGUISHERS

When fire hits, these new American-LaFrance Dry Chemical models are ready to stop it. Simply pull pin and squeeze lever. No gadgets to operate, no last minute pressurizing from a gas cartridge or cylinder, no inverting, no bumping, no shut-off nozzle on the hose needed. They're ready to go!

Their fire-smothering efficiency is aided by a scientifically designed Discharge Nozzle which fans the Dry Chemical downward in wide pattern and with great density. Their 150 (plus 25 minus 0) psi. air (or nitrogen) pressure maintains uniform duration of the Dry Chemical discharge pattern.

A glance at valve gauge indicates whether unit is in operating order. When partially operated, the extinguisher can be left standing without loss of air pressure, for use on a possible reflash.

The American-LaFrance Dry Chemical Valve is completely new also. It is ruggedly built. No special tools needed. Contains few parts. Equipped with Safety Relief Valve. Complete valve and siphon tube assembly removes as a single unit for recharging. They're water-tight, and noncorrosive. Tested for vibration and for operation at temperatures from minus 40° F. to plus 150° F. A Moisture Trap provides for pressurizing with air. Write for free illustrated literature.

With Proud Courtesy of Leadership in FIRE PROTECTION

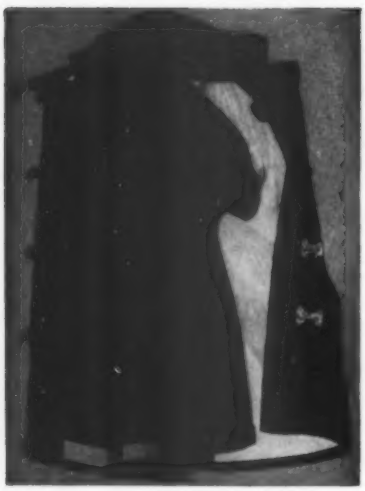
AMERICAN-LAFRANCE-FOAMITE Corporation

ELMIRA · NEW YORK · U.S.A.

IN CANADA, LAFRANCE FIRE ENGINE & FOAMITE LTD., TORONTO

ALFCO

Symbol of Quality-Service-Protection . . . for the modern fire fighter



The famous Midwestern Manufacturing Company trademark is your guide to the finest protective clothing that money can buy—garments that are specifically designed to help safeguard your men's life on every run—enable them to use their equipment to the fullest advantage. Superior quality, design, fabric texture and many exclusive features have made Midwestern Protective Clothing highly favored wherever men fight fires.

- **Exclusive Safety Features**
- **Tailored for Comfort**
- **Softer, More Pliable Materials**
- **Made of Natural Rubber**

We manufacture both rubber and fabric fire coats. In our vast selection of materials you will find the type of fabric exactly suited to your climate and needs. You can depend on the softness and flexibility of the high grade materials used to meet your most exacting requirements for lasting comfort and service under the most rugged conditions.

For complete information on our full line of firemen's protective clothing, see your Midwestern dealer. A letter to the factory will also bring you literature and material samples for your inspection.

MIDWESTERN MFG. CO., Mackinaw, Illinois

Manufacturers of the Famous **MACKINAW Coats**

ELIMINATE MILDEW AND ROT ...specify *American* ARCOLIZED FIRE HOSE

AMERICAN's arcolized hose has a chemically impregnated jacket to give positive protection against mildew, mold and rot – destructive enemies that can make untreated hose unsafe for use in as little as 30 days.

LONGER SERVICE LIFE

Protection of the jacket against mildew means you get the full benefit of AMERICAN's longer-lived rubber tube, even if you use or store hose under highly humid or damp conditions. Tube life of up to 20 or even 30 years is not uncommon with AMERICAN's laminated construction!

NO OBJECTIONABLE PROPERTIES

AMERICAN arcolized hose is neither heavy nor stiff, does not have the sticky, waxy surface of ordinary mildew-proofed jackets, and does not pick up dirt and grit. Chemicals used are non-toxic, have no objectionable odors.

AVAILABLE ON ALL AMERICAN BRANDS

Arcolized jackets are available on all AMERICAN fire hose brands – Crackerjack, American, Municipal, Tiger, Underwriter. Write for complete AMERICAN fire hose bulletin *now*.

THE *American* RUBBER MANUFACTURING CO.

AR-28

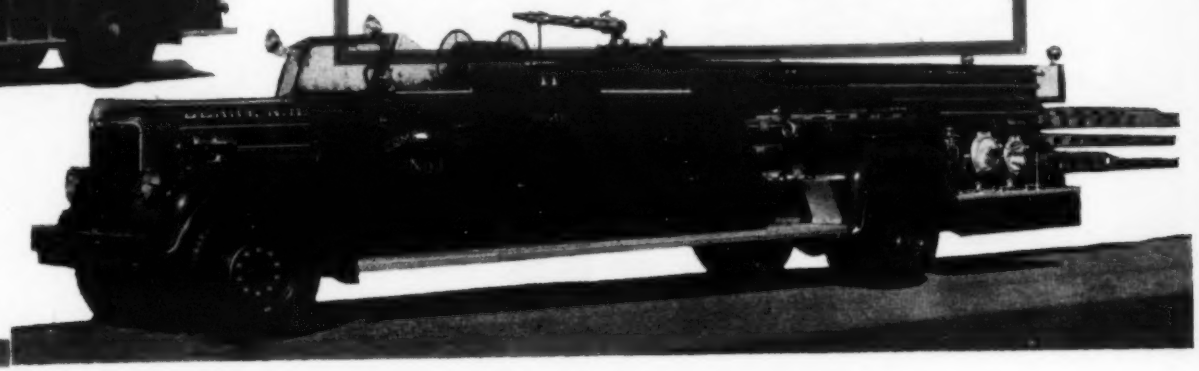
Factory & General Offices: • 1145 Park Avenue • Oakland 8, California • Phone OLympic 2-0800

YOU'LL GET **NEW** IDEAS ON DESIGN AND PERFORMANCE WHEN YOU COME TO MAXIM . . . . .

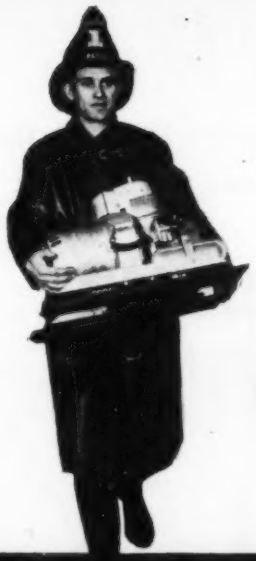
HERE at MAXIM we engineer the truck to the job. Your ideas of what's wanted, plus our experience in design and building, will result in an outstanding piece of apparatus that will surprise and satisfy you on performance.

The men who build MAXIM are second and third generation apparatus builders . . . your assurance of the best that money can buy—when you come to MAXIM.

MAXIM MOTOR COMPANY
MIDDLEBORO, MASSACHUSETTS

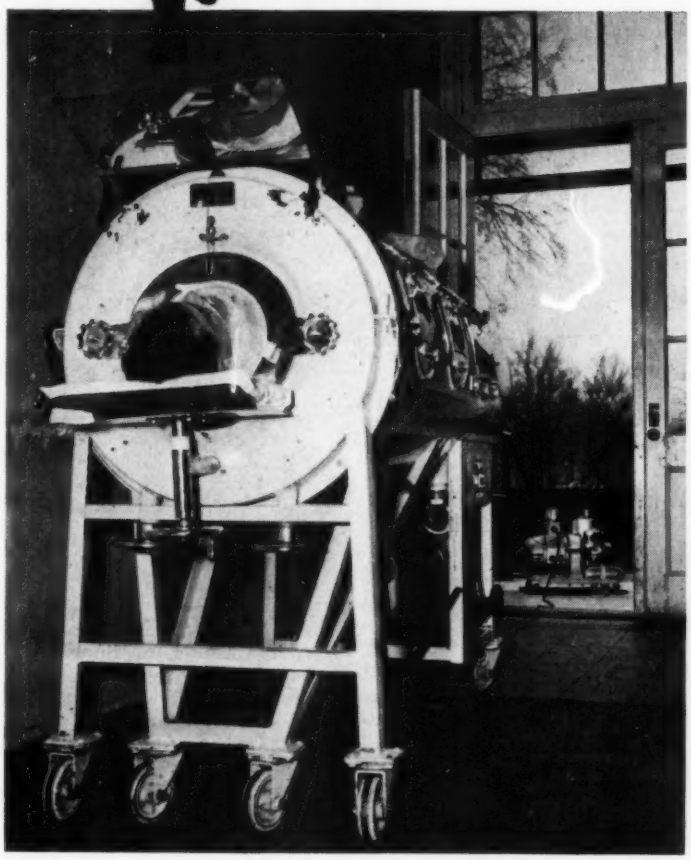


RESCUE AND SPECIALLY ENGINEERED CRASH TRUCKS
for airports and particular needs of industrial plants **AND** the 100-175 MAXIM MAGIRUS rescue aerial.



In Addition to Fires...

There are many other uses for a HOMELITE Carryable GENERATOR



Make no mistake about it . . . a Homelite Carryable Generator is the quickest, easiest means of getting brilliant floodlighting on fires. But its value to your department doesn't stop just there. Far from it.

There are many other calls where a Homelite Carryable Generator is worth its weight in gold. During power failures, a Homelite gives you emergency power for operating lights and essential equipment in hospitals, schools and other public buildings . . . or power for radios, communication or signal systems. On night drownings, a Homelite gives you essential powerful lights. And the performance of Homelites after the Worcester tornado points up the importance of having Homelite Generators ready for catastrophies and civil defense.

Write today for our new Fire Department bulletin showing Homelite equipment in action.

Manufacturers of
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Generators • Blowers
Chain Saws

PERFORMANCE · DEPENDABILITY · SERVICE

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Canadian Distributors: Terry Machinery Co., Ltd., Toronto, Montreal, Vancouver, Ottawa.

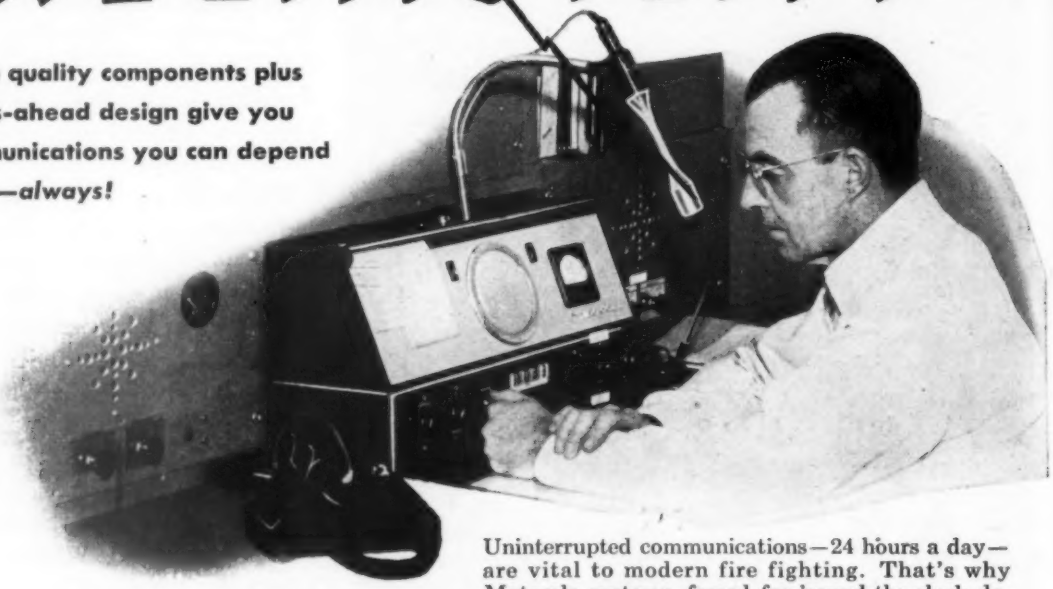
For Instant Contact—Faster Action

depend on

Motorola 2-way Radio

RELIABILITY

—top quality components plus years-ahead design give you communications you can depend upon—*always!*



Uninterrupted communications—24 hours a day—are vital to modern fire fighting. That's why Motorola systems, famed for 'round-the-clock dependability, are first choice of 75% of the radio-equipped fire departments.

Better parts, years-ahead design, and precision workmanship guarantee the kind of performance firemen have learned to expect from Motorola equipment. Eight exclusive Motorola improvements give you time-tested durability . . . lowest overall maintenance. The Motorola "Permakay" wave filter eliminates 15 nuisance tuning adjustments *forever!* Let an experienced Motorola engineer in your vicinity give you the complete Motorola 2-way Radio story *soon!*

For details, write Dept. 2286—FE today!

The trend is to MORE and MORE MOTOROLA 2-way RADIO

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RADIO COMMUNICATIONS

service

Motorola Communications & Electronics, Inc.

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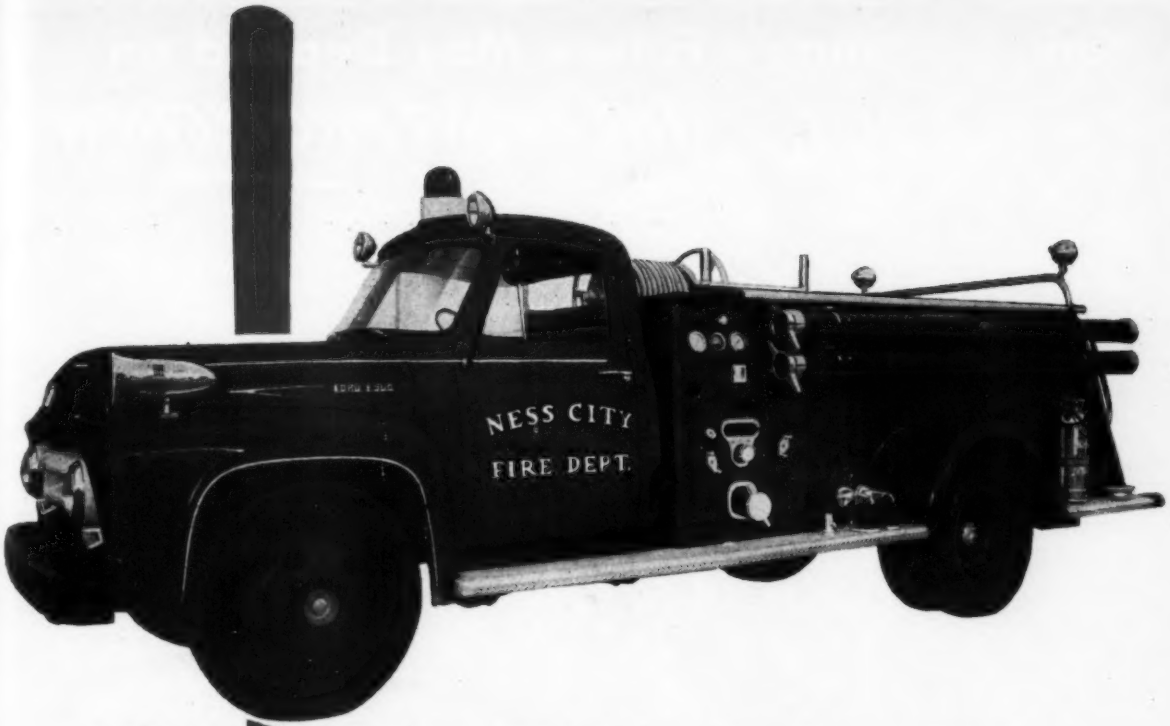
4501 W. Augusta, Chicago 51, Ill. • Rogers Majestic Electronics Ltd., Toronto, Canada



Specify BOARDMAN-Built Fire Fighters for DEPENDABILITY plus ECONOMY!

- 500 GPM Triple Combination Pumpers—1, 2 or 3 Stage
- 750 GPM Triple Combination Pumpers—2 or 3 Stage
- Two Tanker Models
- Rescue Squad Trucks

Fire fighting requires equipment that is, above all else, *dependable* . . . exactly what BOARDMAN fire trucks are engineered and built to be. The result of more than 20 years' experience, BOARDMAN-Built fire fighting equipment always comes through beautifully in action — never lets you down in emergencies. And better still, BOARDMAN pumpers, tankers and special bodies combine this custom performance with the economy of standard chassis. Using any commercial chassis of your choice means first-cost savings, reduced maintenance costs and a minimum of down time for repairs. From its high-capacity Waterous pump to the very last fitting, every BOARDMAN-Built fire fighter is extra modern, extra dependable—and amazingly economical.

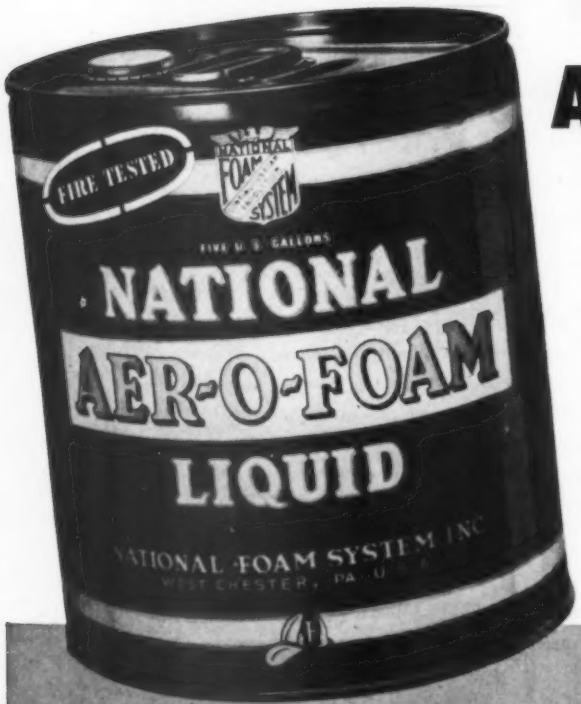
Dealer territories available in some states-write for information

WRITE TODAY for details and specifications on BOARDMAN-Built fire fighters.

THE BOARDMAN CO.
OKLAHOMA CITY, OKLAHOMA
1409 S. W. 11TH ST. PH. MElrose 8-5435

Your Company's Future May Depend on *THE RIGHT PROTECTION*

Be Sure It's — FIRE TESTED



AER-O-FOAM

The only Foam to carry this seal!

THERE'S NO second chance with fire. So guard your flammable-liquids risks with *fire-tested* AER-O-FOAM. This is the foam that is tested on actual oil or solvent fires—every batch of it. Its tough blanket of fire-killing foam has *already* extinguished a fire when you buy it!

Three fire-tested AER-O-FOAM products give you complete protection for flammable liquid fires—6% Regular Liquid and 3% Regular Liquid for petroleum fires, and AER-O-FOAM "99" for either polar solvents or petroleum fires. Write for data on AER-O-FOAM products and devices . . . Foam Chambers, Dip-tank or Drain-board Systems, Nozzles, Extinguishers, Trucks, Towers.

JUST OUT—"Foam Fire Protection," illustrated booklet on what Foam is, what it does, how it works. Yours free.

NATIONAL
FOAM SYSTEM INCORPORATED
Headquarters for Foam Fire Protection — WEST CHESTER, PA.

M·S·A CHEMOX®

The instant you say "Trouble" you're ready for it with the M.S.A. Chemox, because it needs only your breath to release its pure oxygen to give you complete breathing protection for a minimum of 45 minutes.

This dependable safeguard in un-breatheable or oxygen-deficient atmospheres permits firemen to fight fires "from the inside out"—a technique that helps keep fire losses and water and chemical damage to a minimum. The Chemox is on in a matter of seconds. The oxygen-generating canisters do not depend on high-pressure cylinder valves, which may leak. Canisters can be stored indefinitely, require little space. You don't need any extra apparatus for recharging.

The Chemox Apparatus is light in weight (only 13½ lbs.), permits maximum freedom of movement. Features "Cleartone" Speaking Diaphragm. Write for details.

M·S·A

Respiratory Equipment puts you in IMMEDIATE COMMAND of Fire-Fighting Emergencies

M·S·A "ALL-SERVICE"® MASK

For fire-fighting efforts in air contaminated by smoke, carbon monoxide and other gases, but where sufficient oxygen is present to support life, the "All-Service" Mask lets the wearer breathe in complete safety. The unit is compact, rugged, and dependable. M.S.A. "Cleartone" Speaking Diaphragm permits clear speech transmittal. Write for complete details.

M·S·A DEMAND MASK

Supplying compressed oxygen or certified pure air from a back-carried cylinder to facepiece, the M.S.A. Demand Mask provides complete breathing protection for a minimum of 30 minutes in toxic or oxygen-deficient atmospheres. The unit is simple to use, completely dependable in service. Features "Cleartone" Speaking Diaphragm. Write for details.

MSA
SAFETY EQUIPMENT HEADQUARTERS

Call the M.S.A. Man on your every safety problem . . . his job is to help you

MINE SAFETY APPLIANCES COMPANY
201 North Braddock Avenue, Pittsburgh 8, Pa.
At Your Service: 76 Branch Offices in the United States

MINE SAFETY APPLIANCES CO. OF CANADA, LIMITED
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Representatives in Principal Cities in Mexico, Central and South America
Cable Address: "MINSAF" Pittsburgh

THE GREATEST SHOWING OF INDUSTRIAL RUBBER PRODUCTS ON EARTH
REPUBLIC
FIRE HOSE
The jackets of Republic Fire Hose, made only of selected yarns, are plain, Provar Processed (mildew and vermin resistant) and waxed, or in any combination. Tubes have long-aging qualities. Five municipal grades, 3 industrial grades (also made with rubber or neoprene covers) and lightweight hose for forestry service are available.

Your Responsibility

. . . is to secure the fire hose that will do the best job of protecting your community.

Our Responsibility

. . . is to provide you with that "right" hose, as we have done for cities all over America for the past 52 years.

One of the 5 grades of Republic Municipal Hose is the "right" hose for you. Your local Republic Distributor can show you which is best for you . . . and can tell you the advantages of plain, waxed or Provar Processed (Republic's exclusive mildew-proofing treatment) Hose. Call him today or write directly to us.

"Quality Hose Builders for More Than 50 Years"

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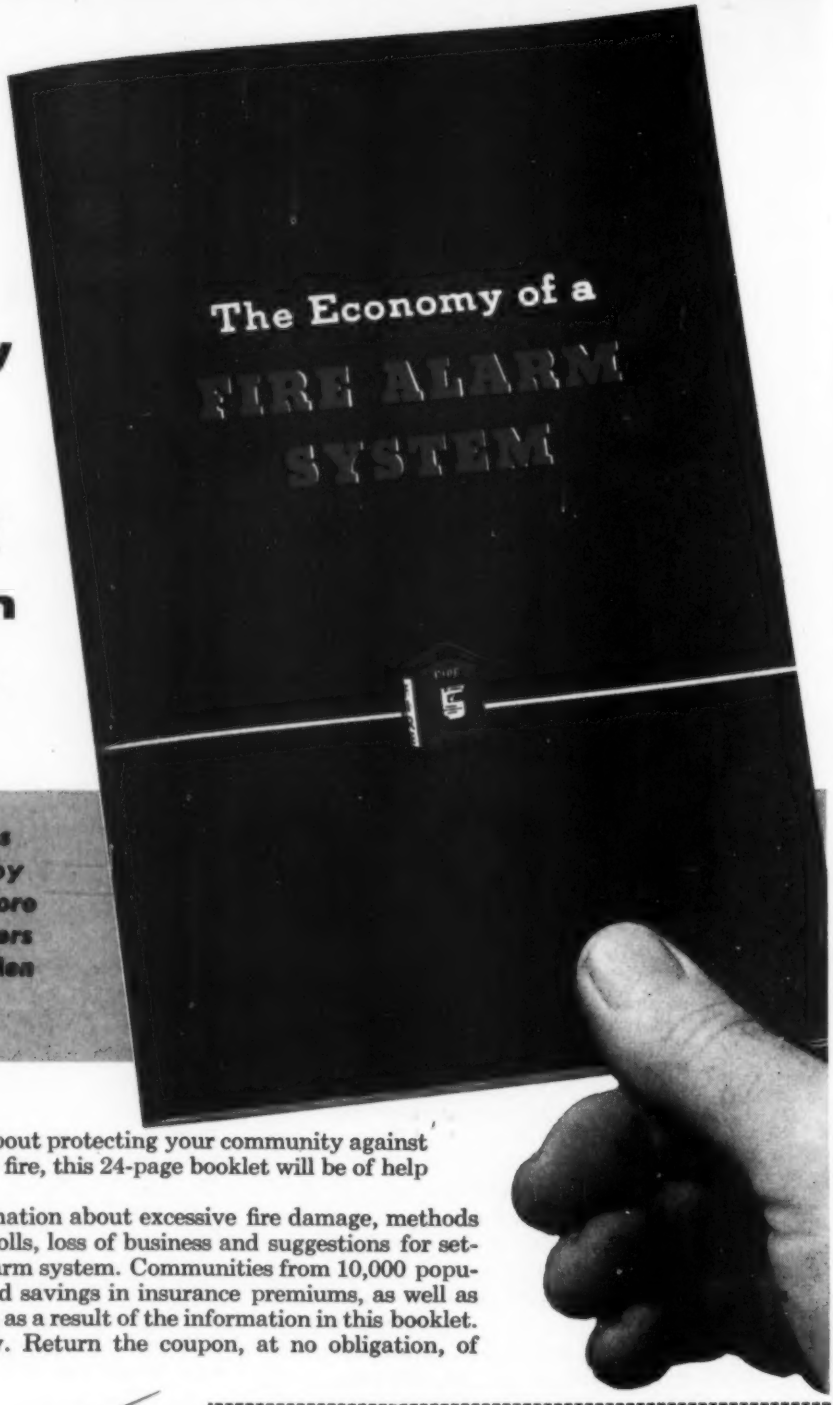

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MARCH, 1954

FIRE ENGINEERING

VOL. 107, NO. 3

With the Editor

Short Crews Impair Ventilation

The author of the series of articles on ventilation currently appearing in this Journal has come up with a theory which may account, in some measure, for a lot of working fires that result in calling for reinforcements before they are controlled.

His observations are not particularly new. Every fire chief today knows how the problem of lack of manpower handicaps fire attack, rescue and related fire suppressions operations (not to speak of fire prevention and other services which today's fire fighter is called upon to render). But not every fire officer realizes just how serious and far-reaching this problem of the short crew is and the critical part it plays in the loss of life and property by fire.

It is common knowledge that the first few minutes at any fire are critical and determine the extent and destructiveness of that fire. In those crucial moments a number of decisions must be made by the fire fighter, and fire suppression actions started.

Naturally, the first consideration is the saving of life. When lives are at stake, all other things may have to wait, especially if crews are too small to perform rescue simultaneously with the other essentials of fire attack and extinguishment.

Rescue is not the simple matter of getting an occupant of a structure out of a window or off a roof. More often it involves search—punishing, dangerous investigation—in atmospheres heavily charged with heat and toxic gases. And there's where short crews and ventilation tie into the picture, because *ventilation* is essential to prompt search and rescue. Where there is no manpower to pave the way for rescuers, by opening up ahead of or over them, rescue is slowed, and the fire has just so much more opportunity to grow and add to its victims.

But that isn't all. When there aren't enough men to go around to conduct search and rescue and to ventilate, the attacking engine and hosemen are stymied. Also, they are slowed because the other part of the team is slowed. And so, because the first response assignment of fire fighters is inadequate to cope with the situation of coordinating search, rescue, ventilation and extinguishment, the entire operation is stalled and fire fighters have two strikes on them at the very outset.

So what happens? Another alarm is sounded, not so much for additional equipment as for manpower. Meanwhile, the fire propagates, building up heat, smoke and gases to pose still greater threats to life and property, and headaches to the fire force.

Where fire crews are at full strength *coordinated* ventilation, search, rescue and other operations are possible. Laddermen are sufficient to perform jointly the tasks of opening up, search for and removal of victims, while engine crews are able to advance their lines on the heels of those doing ventilation. Today, the short crews make coordinated operations difficult, if not impossible. Hosemen may be pressed into service for forcible entry and rescue, if they are available! Laddermen may have to help their brother hosemen advance lines. Use of large hose is becoming increasingly difficult and, as for "stretching double," it's all a crew can do to get a single line into operation.

Under the circumstances, the best-planned fire fighting can fail. What can a ladder company do if it rolls in with only three men and an officer? Not much of a crew to open up, ventilate, conduct search and removal of victims, let alone ladder the structure and cooperate with other crews.

Ventilation is a prime essential in fire fighting and rescue. But to be done properly it takes men, and equipment. Where there are curtailed fire crews, there is inadequate ventilation, and where ventilation is incomplete, or not attempted, effective fire control and extinguishment may be impossible.

Any tightening of fire department budgets which mean reduction in effective manpower, or essential equipment, therefore, can be directly responsible for failure to nip fire in its critical stages, with consequent increased hazard to life and property, and discredit to the fire service.

Fred Shepard

L. A. County F. D. Photo

Fire boils down Bailey Canyon toward Passionist Fathers Retreat House during recent Monrovia Peak forest fire. County firemen saved it.

Bulldozers and Helicopters Aid In Checking Huge Forest Fire

Indian Fire Fighters and Apparatus from 200 Miles Distant Brought in to Help Control Vast Blaze

By CLIFF DEKTAR

ONE of the greatest fire fighting forces ever assembled in the Far West was brought together shortly after Christmas to combat a forest fire in the San Gabriel Mountains northeast of Los Angeles.

Sixty-one pieces of pumping apparatus from regular fire departments and the United States Forest Service were called in to fight the Monrovia Peak Fire. Altogether, some 1100 men including 443 Indians flown in from Arizona and New Mexico, were on the fire lines.

It was dry and windy in the foothills near L. A. on the afternoon of Dec. 27, 1953. Lack of rain had made the brush in the mountains surrounding America's fourth largest city, tinder dry.

Forest Service Patrolman Don Starr started out from the Red Box Ranger Station up the Mt. Wilson Road to check on some telephone trouble. As he was driving up the twisting road, he saw flames racing up the northeast slope of Monrovia Peak. At 3:59 p. m. he radioed the alarm to Arcadia Forest Service headquarters. A wind of more than 70 miles per hour was blowing at the time.

At headquarters, Dispatcher Jack Page started what little equipment the Forest Service had available during the so-called "winter" season rolling from Chilao Ranger Station and other parts of the Arroyo Seco District. He also contacted the Los Angeles County Fire Department under mutual aid and initial action agreements.

Harry Grace, fire control officer of the Angeles National Forest, and William V. Mendenhall, forest supervisor, were also alerted and told of the critical situation. They rolled at once to take charge. Grace saw there was little chance to immediately control the fire because of the high winds.

In Arcadia, a few miles below the point where the fire was started by what investigators believe was a careless smoker, County Fire Chief Keith E. Klinger was working in the garden of his home. He saw the first wisp of smoke driven by the gale-like northeast wind come over the mountains.

"I drove immediately to Forest Service Headquarters and called for my first assistant chief, Roland W. Percey," Chief Klinger recalls. "By then we already had equipment rolling in. Previously we had put most of our field personnel on a standby basis because of the hazardous conditions. Bulldozer operators, truck drivers, and our juvenile probation fire camp crews all also were alerted.

"We also had moved some reserve engine companies from lowland residential districts into the foothills."

Just as the firemen were beginning to concentrate their attack on the Monrovia fire, the high winds fanned an old one into new life 26 miles to the east in Barrett Canyon north of Claremont. Previously this fire had been controlled after blackening about 4,000 acres and patrol crews were on hand. They could do nothing, however, because of the high winds. Gusts of more than 80 miles an hour were clocked at nearby Ontario International Airport.

Equipment from the adjacent San Bernadino National Forest, L. A. County Fire Department, and California Division of Forestry, was dispatched at once. It was agreed that although the fire was in the Angeles Forest, San Bernadino Rangers would supervise its control because the Angeles personnel was tied up with the Monrovia blaze.

The Monrovia blaze grew steadily worse. Grace and Klinger saw that hundreds of beautiful homes in the foothill communities of Monrovia, Arcadia, Sierra Madre, and Altadena, lay in the path of the flames. Conceivably, if the holocast was not controlled, many expensive homes could be burned to the ground.

On the northern front of the Monrovia fire, the situation wasn't too good, either. Flames were whipping uncontrolled through thousands of acres of beautiful timber toward the North Fork of the San Gabriel River—some of the most beautiful recreational country in California. On the northwest, flames began licking up the timbered slopes of famous Mt. Wilson toward the noted Carnegie Observatory, its 100-inch telescope, and the seven Los Angeles-area

television transmitters located there.

More help was needed. Grace asked Chief Klinger, Civilian Defense fire chief for L. A. and Orange Counties, to obtain Civilian Defense pumping units. These rigs, purchased jointly with federal and state funds, had been used on a standby basis on a previous forest fire on the East Fork of the San Gabriel River.

Klinger contacted Chief Harold Bowhay, Chief of California CD fire services, and 23 pumpers complete with crews were ordered in. The rigs all had 1,000 g.p.m. pumps, 500 gallon tanks, 200 horsepower motors, and carried 400 feet of 1½-in. hose and 1,000 feet of 2½.

OCD units from as far away as San Luis Obispo, 200 miles to the north, and Chula Vista, near the Mexican Border, 145 miles to the south arrived and were put to work. The government, incidentally, reimbursed the fire departments sending the units for the pay of their personnel and expenses of operating the equipment.

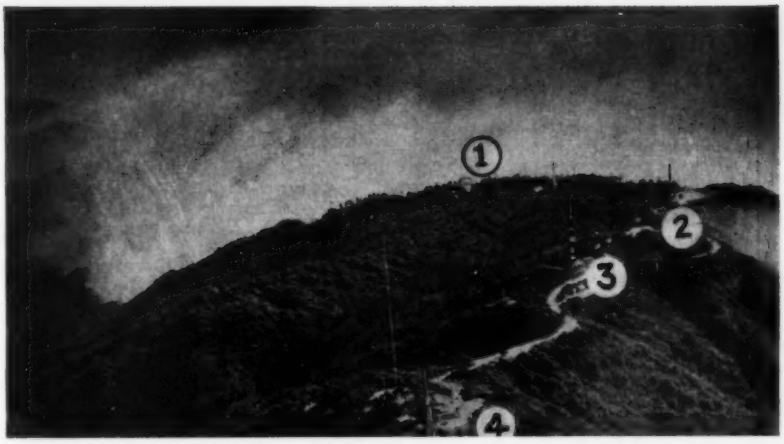
Chief Klinger also invoked mutual aid agreements and some of the informal, fine working agreements he had built up, to get more help as the flames licked closer to homes in Monrovia Canyon. Chief John H. Alderson of the Los Angeles Fire Department dispatched six tank units and several patrol trucks under Batt. Chief Wallace Newcomb. Chief Elmo Freear personally led a convoy of seven pieces of apparatus in from Kern County Fire Department Headquarters in Bakersfield, 110 miles away. From Ventura County, Chief C. D. Little brought three more pumper-tankers. The cities of Pasadena and Glendale also sent pumping units, while firemen from the small Monrovia department were doing their part to save homes in their suburban community.

Thousands of feet of hose were laid to protect expensive homes in the foothills north of Monrovia by cooperating units. County, OCD, Monrovia, Glendale, and other rigs were used in this area. No homes were lost, but in several places the flames burned down to the backyards of many homes.

The fire swept down through Big Santa Anita Canyon toward northern Arcadia destroying 33 summer homes and cabins in this beautiful recreational area. Firefighters could no nothing here to stop the flames because of high winds and darkness which combined to make conditions extremely hazardous for personnel.

By Monday, as more reserves poured in, it appeared that the Monrovia and Arcadia homes were saved, but the fire still was burning west toward Sierra Madre and Mt. Wilson. The winds started to die down.

By this time, rangers from all 18 National Forests in the Far West were on duty and 16 bulldozers were chugging around the rapidly-expanding perimeter of the blaze. The Forest



From top to bottom:

Mt. Wilson Observatory threatened by forest fire. (1) Mt. Wilson Observatory; (2), (3) and (4), television transmitters. Fire was checked before it reached these structures.

Forest fire approaches the City of Monrovia, Cal. Fire fighters checked the advancing blaze before the city was involved.

L. A. County F.D. Photo

Ventura County Fire Department tanker (left foreground) and Office of Civilian Defense Pumper No. 30 in Hidden Canyon north of Monrovia during recent fire.

Service pressed a helicopter into service for reconaissance purposes once the smoke and haze cleared.

Ashes from the fire drifted all over the Los Angeles metropolitan area as far south as Long Beach. The sun was often obscured by the pall of smoke.

Concern grew over Mt. Wilson and the valuable installations there. County, Forest Service, and the seven Kern County units were ordered to the mountain top to stand by. Nolan O'Neil, fire control officer of the Los Padres National Forest at Santa Barbara, Chief Freear, and Batt. Chiefs W. H. Weyant and W. A. Sherrill of the County F. D., took command here.

Meanwhile, to the east on the Barrett Canyon Fire, several hundred persons were ordered evacuated as the flames continued to roar uncontrolled there. Twenty-five pieces of apparatus from the California Division of Forestry from as far away as Fresno, 200 miles to the north, were ordered in by Dep. State Forester James Mace to assist the 15 County and Federal pumpers on the job. More than 500 men worked here. The crews managed to save all cabins here.

Back on the Monrovia Fire, the next battle was fought on the steep slopes back of Sierra Madre. Here Sierra Madre volunteers scaled the hillsides with 1½-inch lines and literally beat back the flames from many homes. OCD, County, and Glendale units were used here to boost the pressure up the hillsides.

A large numer of persons here also were ordered evacuated as a precautionary measure. A police blockade went up around the evacuated area in Sierra Madre Canyon and none other than fire or official vehicles was allowed in. Extra police and deputy sheriffs were on constant patrol.

Again, combined efforts saved the homes.

The days went by as the flames slowly burned over more ground. By Thursday the flames had slopped over into Bailey Canyon and started down toward the Passionist Fathers' Retreat House in Sierra Madre. It was also feared the fire might jump the western fireline along Hastings Firebreak and the old Mt. Wilson Toll Road and sweep down toward new homes in the Hastings Ranch area of Pasadena and mansions in the Pasadena Glen sector. By now the perimeter measured 36 miles.

In this area, flames did burn through a cable and for a time black out the Forest Service radio transmitter on Mt. Wilson.

Several times, high winds were forecast, but luckily they did not occur. Most men were near the point of exhaustion.

Back of the retreat house firemen again stopped the flames. When it looked as if the flames might jump the Hastings Firebreak, Chief Klinger ordered 20,000 feet of 2½-inch hose brought in for use if needed. Several thousand feet eventually were laid up the firebreak.

Helping here with the back-breaking job of laying hose was a L. A. Fire Department bulldozer with a specially-constructed hose reel. The reel, on the back of the "cat," can be used both for laying and picking up hose and is an innovation in mountain fire fighting.

Firemen made good progress and gradually started to bring the conflagration under control. On New Year's Eve and morning, early risers waiting to see the famed Tournament of Roses Parade in nearby Pasadena could see the flames burning on the mountain tops.

Thanks to dying winds, the fire was officially controlled at 6 p. m., Sunday, Jan. 3, after burning 15,000 acres, destroying 36 homes and cabins, and doing an estimated $4,000,000 in watershed damage alone.

Harry Grace estimated suppression costs at $400,000.

An additional 4,400 acres were burned over in the Barrett blaze which was controlled shortly before the Monrovia Fire.

"This is one of the greatest examples of mutual aid we have ever had in Southern California," said Chief Klinger.

"No agency could have fought these fires alone," said Grace. "I want to thank everyone who helped us."

Grace said there were no serious injuries during the fire. Two contract "mother" tankers rolled off a canyon road, but were salvaged.

"This fire points up cooperation and understanding among various departments and certainly opens the door toward further effort if ever needed for Civilian Defense," pointed out Richard Johnson, fire prevention officer for the Angeles Forest.

Weary firemen rolled up their hose and started back to their stations and the tiresome job of cleaning up the equipment, much of which had been in almost continuous service since the fire broke out.

Forest Service crews took over the job of mopping up.

Fire fighters move up to start operations on the San Gabriel Mountain blaze.

Rains Bring Trouble

Then, a few weeks later, the rains came. The high fire hazard was ended, but some crews had to be taken out of the high country on bulldozers.

But the real trouble was in Sierra Madre.

Here, tons of mud came sliding down out of the burned-off canyons and clogged streets in the usually peaceful foothill community. Many homes were damaged by mud. Some citizens again were evacuated from their homes. Damage here was estimated at $1,000,000—all directly attributable to the slopes denuded by the fire.

A week later, another heavy rain hit and Sierra Madre was again inundated. But it was even worse to the east in the Palmer Canyon area below the Barrett Canyon burn. Here, several elderly persons had to be carried out on stretchers—by firemen, of course—when floods menaced their homes. Many of the cabins which the firefighters had labored so hard to save were now damaged or destroyed.

"And to think," said Batt. Chief Noel Manchester, assistant commander of the County Fire Department's Fire Prevention Bureau. "Both of these fires the tremendous loss and cost, were caused by careless smokers!"

Volunteers Make Good Stop at College Auditorium Fire

Checking Advance of Blaze Saves Half of Large Campus Structure at William and Mary College

By FRED FRECHETTE

TO the surprise of no one acquainted with the structure, William and Mary College's 27-year-old Phi Beta Kappa Memorial Hall was scene of a spectacular fire the night of December 29, 1953. Any fireman with more than a passing knowledge of the interior of the building's auditorium knew it would makt a first-class bonfire.

It did.

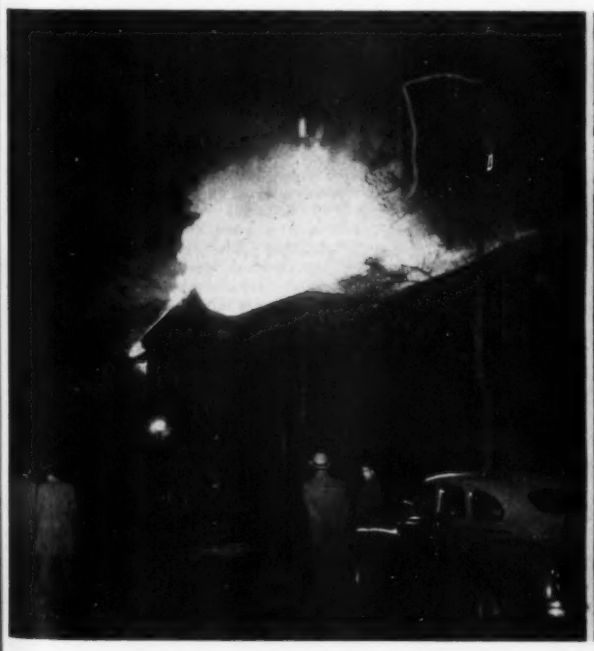
The only surprising aspect of the fire in the poorly-designed hall was that any portion of it was saved. It was built to burn.

Nevertheless, when the blaze was brought under control by Williamsburg, Va., Fire Chief Elliott W. Jayne and his predominantly volunteer department, only half the structure was on the ground. The other half was virtually intact. Firemen accomplished this feat in spite of the fact flames burst through the roof of Phi Beta Kappa Hall within moments of their arrival.

Observers and investigators were unanimous in declaring it was one of the finest fire fighting jobs they had ever

Richmond Times-Dispatch Photo

This morning-after photo shows gutted auditorium at left and north wing at right, which was saved.



Richmond Times-Dispatch Photo

Left: Southeast corner of auditorium approximately five minutes after alarm. Portion of roof at far left has just collapsed over the stage. Remainder of roof fell in moments later. Right: About ten minutes after alarm. Using two 2½-inch lines from Engine One, firemen on east side of auditorium cover exposures at north auditorium wall. College employee in the center throws bricks to break remaining panes of glass in second floor window.

seen, a magnificent "stop" performed in the face of a delayed alarm of the worst order in a building unbelievably ill-suited to successful fire fighting.

Phi Beta Kappa Memorial Hall, constructed in 1926, was of brick construction with steel truss support for roof and balconies. As shown in the accompanying diagram, it was divided into a north and south wing. On the north side were offices and lounges; on the south, a barn-like auditorium. Neither wing contained sprinklers or automatic fire alarm system.

No fire wall existed between stage and auditorium in the south wing. Actually, a perfect flue existed for rapid spread of flames from backstage over the proscenium into a large space between ceiling and roof. Except for the outside walls, construction was primarily of wood and plaster.

The north wing, of similar construction, contained a large foyer and two lounges on the ground floor. The second floor housed national headquarters for the Phi Beta Kappa Society and was stocked with irreplaceable records of that organization. Above the second floor an empty loft occupied the space to the roof.

Between the two wings, along the north side of the auditorium, was a brick wall. This barrier, which eventually figured prominently in the battle to save the north wing, was deceivingly porous. Though it was 16 inches thick from the first to second floor, and eight inches from second floor to attic, it went neither to the ground nor to the roof. Below the first floor it rested on columns which provided spaces three to six feet high and several feet wide between ground level and flooring. It stopped just short of the roof of the north wing, leaving six to eight inches of free space below the roof.

In addition, three wide exits from the auditorium on the first floor and another on the second floor gave free access between the two wings. None of the four openings was fitted with fire-resistant doors. There was also an unprotected four-foot square opening into the attic.

As a matter of fact, the only favorable factor about the situation was the weather which existed the night of the fire: the temperature was well above freezing and only a gentle southwest breeze stirred the air.

This was the setting when, from an undetermined cause, fire broke out backstage in the auditorium. How long it burned before discovery may never be known, but estimates range from one to three hours. With college closed for the Christmas holidays, no one was in the building or its vicinity.

At about 8:05 P.M. on the 29th, a passerby on Jamestown Road noticed smoke issuing from the building and saw a dull orange glow in windows near the auditorium stage. He ran two blocks to the fire station to turn in the alarm.

Fortuitously, Chief Jayne and a volunteer were at the fire station, in addition to the two paid men on duty. Signalling a general alarm on the city's fire sirens, they responded to the alarm immediately with Engine One, a 750-GPM pumper.

Jayne's size-up confirmed his worst fears: smoke was billowing from the auditorium eaves and flame was visible through windows near the auditorium stage. Nevertheless, he made an attempt to save the auditorium.

Following standard procedure in the Williamsburg department, Engine One dropped a 2½" supply line at a hydrant on Jamestown Road and proceeded to a point south of the building. A preconnected 1½" supply line with fog nozzle was stretched to a window at the southwest corner of the auditorium and, with the aid of a 12-foot ladder, applied through the window. Within moments, visible flame was extinguished and Selby Jacobs, regular fireman who had donned air demand type mask, relieved the nozzleman and advanced the line several feet into the smoke-charged stage wing.

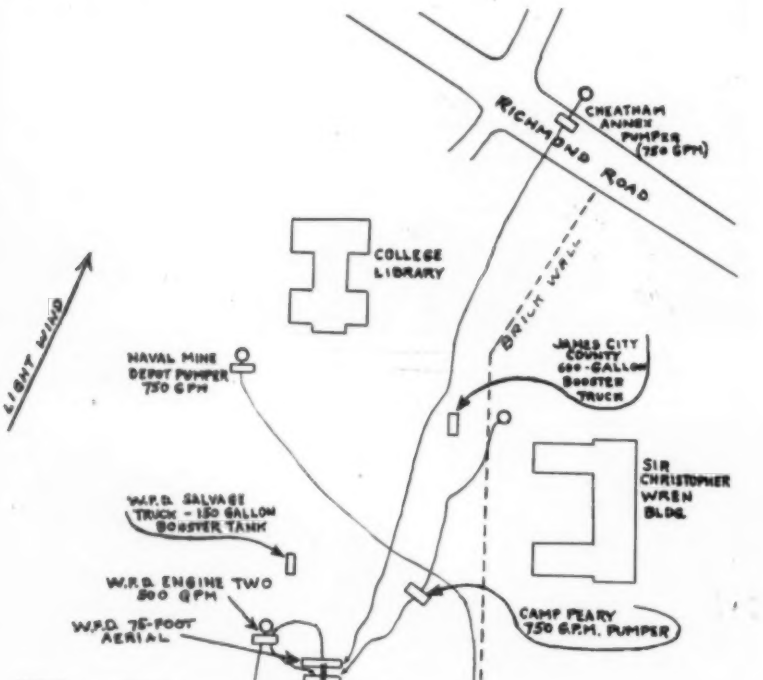
At this instant, flame broke through the roof with a tremendous roar and portions of the ceiling, slate shingles and cornice began to fall. By ducking into the window opening, Jacobs miraculously escaped serious injury, though falling objects, which bounced off his helmet and body, bruised him severely.

Assistant Chief Robert B. Smith, who had responded with Jayne, pulled the line back and made another attempt to advance the small line through the front (east end) of the auditorium. He was forestalled by falling masonry, and retreated just before the roof began to cave in.

In the meantime, Engine Two, a 500-GPM pumper, had arrived and, following a pre-arranged plan, proceeded to a hydrant inside the campus at the northwest corner of the building. Its "skid load", two 1½" lines with fog nozzles wyed to a 2½" line, was deposited at the north entrance to the Hall. Another 2½" line was laid immediately to supply the ladder pipe on the department's 75-foot aerial, which had taken up a position close to the auditorium's west wall.

At this point, approximately five minutes after the alarm, flames were leaping 75 to 100 feet in the air above the auditorium and its roof was rapidly caving in. Chief Jayne summoned mutual aid from James City County, Camp Peary

(*Continued on page 238*)



Locations of fire equipment and hose lines, Phi Beta Kappa Memorial Hall fire, Williamsburg, Va., December 29, 1953.

Plant Fire Protection Pays in Huge Wood Products Mill

White Pine Sash Company Maintains Well Trained Fire Force at Spokane Plant

By JOHN J. LEMON

THIS is the story of fire prevention teamwork between management, employees, insurance underwriters and municipal firemen who faced a challenge and met it successfully.

The scene is Spokane, Washington, home of the White Pine Sash Company, where some 500 employees (8 per cent women) are engaged in production of window and door frames and screens, furniture stock, box and casket shook, combination doors, toy specialties from log to finished product and like merchandise to supply the company's warehouses in Chicago, New York and Boston.

The sprawling frame-construction mill and yards spread over an area equivalent to 20 city blocks. With a sales volume of $5,000,000 annually, the plant must remain in continuous operation to maintain its position in a highly competitive market. A fire of any consequence, one that would damage but one of the numerous specially constructed machines in the plant, could force a shutdown that easily could be permanent. As White Pine Sash President, K. Henry Klopp put it, "An 18 month shutdown would force us out of the market. There would be no reason to reopen operations."

Another consideration is the fact that when you have a value of better than three and one-half million dollars in highly flammable plant and supplies, insurance costs are not "peanuts."

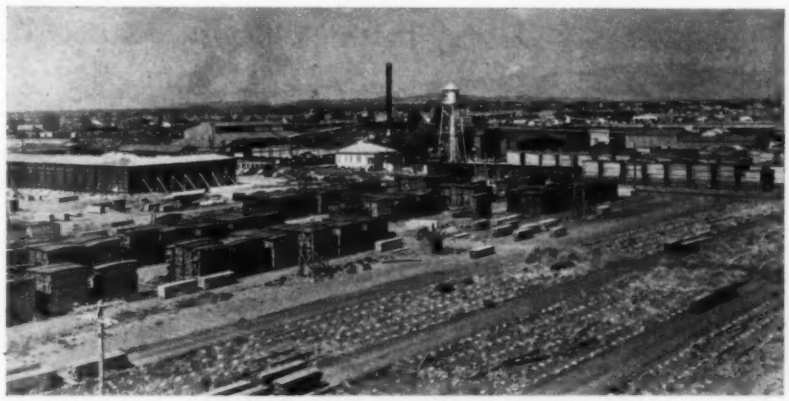
Klopp, whose father established the business at Spokane in 1910, is progressive and farsighted. He called his own plant officials together with insurance underwriters and officers of the Spokane City Fire Department, including Chief James T. Blamey, Captain of Inspectors Roy McDirmid and Drill Instructor Ormand Zapf. From that meeting came one of the most comprehensive and complete programs of plant fire protection said ever to be devised for that type of operation. The program was launched less than three years ago.

In August of last year, 16 officers of the city fire department were guests of the White Pine Sash employees and management at a "Fire Protection" party. Ten teams of "volunteer" fire-fighters from various departments of the plant went through their paces, demonstrating their knowledge of hose lines, nozzles, water pressure, alarm systems and a thorough understanding of what fire fighting is all about. They proved themselves well trained by their ability to recite the location of alarm boxes, hydrants, hose houses, hose reels and other fire protective apparatus within the mill and yards. A tour of the installation revealed a well-planned fire protection system and a considerable capital outlay in fire control.

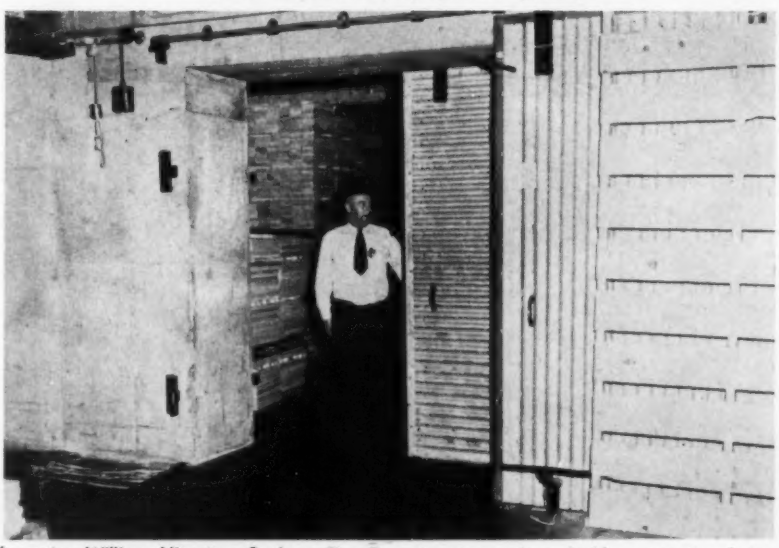
In the lumber yards, where up to 14,000,000 board feet of lumber is stored at one time, are located 30-foot high towers on which are mounted turret nozzles with a 360-degree sweep. The ten towers are so spaced that every square inch of the storage yard can be wet down. The streams from the towers have a 10 to 15 feet overlap, with their 600-gallon per minute flow.

More than three miles of underground water lines have been laid solely for fire protection, and numerous hydrants have been installed, in addition to those maintained by the city. The company is not solely dependent upon city water supply, however. Giant pumps push water from their own wells into a 50,000-gallon storage tank located almost in the geographic center of the company's grounds.

Because of city regulations, the company can not "tie into" the city water lines permanently, but valves are so arranged that an immediate tieup can



White Pine Sash Company's plant at Spokane.



Inspector William Hingston, Spokane Fire Department, examines double automatic closing metal fire doors at White Pine plant. Note thickness of concrete fire wall separating manufacturing department from lumber storage bins.

be accomplished in a matter of seconds if there is a demand for additional water supply.

Thousands of feet of finished lumber in a variety of sizes are stacked within the mill awaiting movement to the various finishing machines. Lumber is stacked much in the manner of goods in a storage warehouse, with wide aisles between. A network of overhead sprinklers has been installed throughout the plant, including the saw mill. No part of the structure is unprotected, and even a small blaze would set them into operation.

Good housekeeping is practiced by the sash mill workers. Although a tremendous amount of sawdust accumulates from the whirring machines, it quickly is carried to bins far removed from the manufacturing departments. Buildings are well lighted and painted. Especially easy to spot are the hose reels and alarm boxes, hung sufficiently high and painted brilliant red. Throughout all the buildings are signs calling attention to fire safety.

Within the last two years the plant has been divided into three parts by massive reenforced concrete firewalls, measuring 12 inches or more in thickness. The firewalls extend beyond the normal walls and roofs. Metal fire doors are hung on each side of the fire walls.

A Trained 80-Member Fire Squad

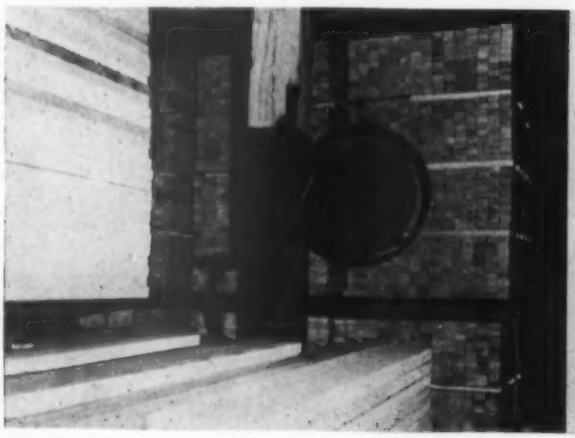
Realizing that mechanical fire protective measures are only part of the job, Klopp called on his personnel manager and Fire Marshal, Ralph D. Wise, to organize the plant's safety program. Wise took his job seriously. He studied and worked with fire underwriters and members of the city fire department to organize a fire patrol. While all plant personnel receive a certain amount of training at their safety meetings, the 80-member fire squad is trained both in preventing fires and fighting fire. About 65 of the day crew men have been divided into fire companies and assigned to specific duties in case of fire. Fifteen night crew men and watchmen are similarly organized.

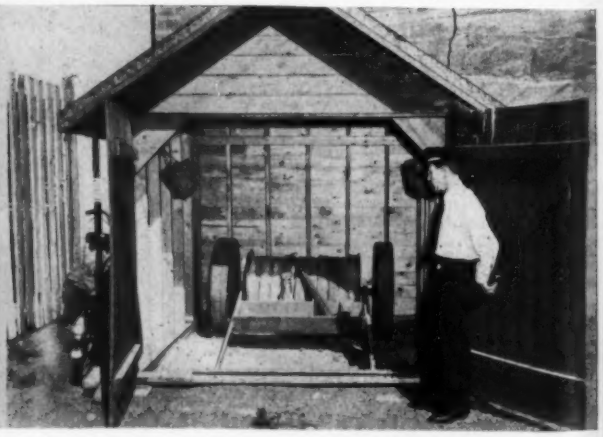
The companies, in case of fire, assemble at the several "hose houses" scattered about the plant and yards. Each man has a specific task, the same as with a well-organized ladder or hose company. There is a hydrant man, a nozzle man and so forth. The men have been taught how to do their jobs properly and quickly. There is no floundering and no guess work. At the recent "Fire Protection" party, city firemen observed the men in action and gave them helpful tips. They were amazed at the manner in which the men assumed

(*Continued on page 236*)

Top: Ten high towers, scattered about the storage yards of the White Pine Sash Company at Spokane, Wash., shoot 600 gallons of water a minute from 360-degree turret nozzles. The towers are so located that every inch of the yard, where millions of board feet of lumber are stored, can be covered with water quickly. Water streams overlap.

Bottom: Massive concrete fire walls, running at right angles to each other, are a part of the recently adopted program of fire safety which has focused attention on the White Pine Sash Co. of Spokane. With these, and another fire wall extending above roof and walls of the frame buildings, the sprawling manufacturing plant is divided into three units.





Left: One of the many hose reels within the manufacturing plant of the White Pine Sash Company is shown to demonstrate how they are kept free and easily located. The post, reel and standpipe are painted red. Hose is checked regularly. Right: Spokane City Fire Captain Virgil Deno examines hand drawn hose cart, housed in a red frame building adjacent to one of the company's concrete fire walls.

Fire Service Ventilation in Principle and Practice

Part V - Top or Vertical Ventilation as Applied to Typical Occupancies

By ROI B. WOOLLEY
Assistant Editor

Editor's Note: **This Chapter is a continuation of Part IV (February, 1954 FIRE ENGINEERING) in which the author reviewed the factors which influence top level and overhead ventilation. In the present installment, ventilation practices and operations are discussed as related to specific types of buildings and occupancies more commonly encountered by fire departments. Many of these findings are taken from reports of actual fires.**

The author has seen fit to relate certain details of building construction to these representative operations, but only insofar as they bear upon the subject under study, i.e.: *vertical* or overhead ventilation. It is hoped later to follow this same procedure in dealing with horizontal, or lateral, ventilation, and still later, with bottom, or below-street-level ventilation.

As has been said before, the practice of ventilation is generally based on the principle of heated gases rising; every firefighter is aware that hot air, smoke and gases, the products of combustion, do tend to rise in a building involved with fire. The object of ventilation, therefore, may be said to be twofold: First, to draw the heated, contaminated air straight up elevator or other shafts, and through some opening over and above the fire (preferably through the roof) to the outer atmosphere, thereby preventing "mushrooming" of the fire on the various floors; second, to draw away the heavy smoke and gases which may have backed up to the very seat of the fire, so fire fighters can do effective search and rescue work, and advance lines to attack the fire at close range.

We pointed out previously, that the quicker and more efficiently these objectives can be attained, the more successful the fire extinguishing operation. Usually, the more serious the nature and extent of the fire, the greater will be the life and property hazards, and the more important will be coordinated, organized speed in applying ventilation.

It is said that over 90 per cent of the nation's fires are small to insignificant, wherein ventilation presents no great problem, possibly nothing more than opening a few windows, doors, louvres, or overhead shaft coverings. But it is also true that of the balance of the fires which do cause considerable damage, ventilation, or the lack of it plays a very large part in the fire control operation. True, many of these fires are of multiple-alarm proportions before the fire department ever receives the alarm; many are "through the roof," and may be said to have "ventilated themselves." However, it is not with these that we are so much concerned; rather it is with that percentage, small as it may be, which offers some hope of control and extinguishment if prompt, organized ventilation practices can be applied so fire fighters may reach the heart of that fire, or completely cut off its extension and localize it.

It is true also that among this small but costly percentage of fires are many that do not indicate at their start, or upon the arrival of the department, the importance of ventilating the premises. Very little smoke or other indication of fire may be in evidence. In industrial occupancies, for example, a small fire may have built up toxic or other dangerous gases which are not much in evidence as indicating the need of immedi-

Left: Early stages of fire in Cumberland, Md., Potomac Edison store, showing firemen driving back fire on second floor. Heavy emission of smoke of top floor was induced by lack of roof, or top level, ventilation. Note tip of aerial ladder, upper left, being extended to reach top of building. Right: Streams employed by four city and a dozen volunteer fire units have just about controlled blaze (note color of smoke).

New York fire fighters struggle to vent Chinatown tenements in which four perished. Heavy smoke, humidity and icy roofs, made vision and footing difficult. Note smoke emitting between bricks (lower left), a danger sign.

ate venting. Absence of heavy smoke conditions, therefore, should not be taken too literally as indicating no immediate need of ventilation.

Roofs and Roof Coverings

Inasmuch as overhead or top level ventilation is largely concerned with roof construction and design, and its relation to vertical arteries, it is relevent to briefly review these details, as they apply to the more common types of buildings and accupancies.

At the outset it should be pointed out that roofs on most types of building are susceptible to fire, both interior fire and exterior exposure. Authorities agree that roofs should logically have a degree of fire resistance equal to or greater than that of the buildings which they protect, but as commonly found, particularly on buildings of ordinary construction, they have a materially lower fire resistance. Many otherwise fire resistive buildings have been practically destroyed by the result of fire on combustible roofing, even though located on some sort of steel roof structures. The General Motors fire at Livonia, Mich., is a case in point.

Briefly, the firefighter is concerned with the following prevalent three types of roofs, and construction: (1) Flat; (2) pitched and (3) arched.

(1) Flat Roof: The simplest, though not the most common type, is the flat roof. Generally, the structural part of a flat roof is similar to the construction of a floor, and may consist of wooden joists and boarding, concrete, hollow tiles, composition or any other type of floor construction. Above this is fixed some kind of waterproof layer with, in some cases, thickness of heat-insulating material as well. Flat roofs are more common to mutliple dwelling apartments, commercial and industrial buildings and the like than to individual dwellings.

This type of roof may, and frequently does, have a slope and is broken by various chimneys, vent pipes, shafts, bulkheads, skylights, etc. It may be divided by parapets. It may support water tanks, television and radio aerials and other obstructions which may interfere with ventilating operations.

(2) Pitched Roof: This is the most common type of roof, generally found on single dwellings, barns and small structures. The simplest form of pitched roof construction is one in which timber rafters, about one foot apart, run from a ridge board to a wall plate on the top of the outer wall at eaves level. These rafters carry the sloping roof, which can be of various materials. Where rafters are longer than about 6 feet, they are usually supported by a timber called a purlin and on long spans this in turn is supported by timber struts placed at intervals on the tops of the internal walls.

The ceiling joists are nailed to the wall-plate and to the rafters, so the whole construction forms a series of triangles which resist any tendency for the roof to spread outwards. Sometimes the two sets of rafters are also connected together at about half the height of the roof by transverse timbers, which help to stiffen the roof by reducing the free span of the rafters. Often the rafters continue beyond the line of the wall and overhang to form the eaves. Horizontal boarding is often used below the eaves to keep out draughts, birds, etc., from the roof space.

There are variations of this type of construction. In some the rafters form part of the ceiling of the room below; rooms formed in the roof space, if high enough, may be framed, and lined with plaster and lath, or a form of wallboard; the framing thus forms vertical walls to the rooms.

The details of framing, and finishing—particularly the question whether or not there is a ceiling to the space below the roof members, materially bear upon effective roof ventilation.

In the average single-family house the space between the top floor ceiling and roof structure is left unfinished as a storage space or attic. There may or may not be an opening in the roof reached from the attic floor, and there may or may not be dormers and windows which break the surface of the pitched roof. There may be stairs leading from the top floor into the attic.

The attic or other space under the pitched roof may be normally ventilated by two or more louvres, although firemen many encounter such buildings wherein this area is "dead space" and has no outside vents.

Insulation material may be placed between the framing, under the roof covering, and the floor, to further "seal" the space against weather.

Another variety of the pitched roof is the mansard. Instead of the roof running up at a constant angle from eaves to ridge, there are two angles—a very steep pitch running from the eaves to room height and a flatter pitch, above, the object of this being to place a room inside the roof space which, in effect, becomes an additional story. This type of roof is becoming less common in this country, but firemen may encounter it in older type structures.

Still another type is the trussed roof. It is designed to obtain considerable span, beyond that which is possible in the simple forms of roof construction above described.

Usually this type roof construction is encountered in larger buildings. The ordinary close-coupled roof consists of a truss in its simplest form, i.e.: a triangle formed of two inclined members in compression linked by a tie which is in tension.

There are many different types of trusses, both timber and metal, or wood with metal reinforcing and more lately concrete. Timber is found prevalent in most structures built during the nineteenth century where members were in compression, and wrought iron for those subject to tension.

Trussed roofs may be met with in most buildings having large open areas, such as churches, theatres, shopping centers, super-markets, factories, hangars, etc. This type roof may sometimes be pierced by ventilators or other openings.

(3) The Arched Roof: This is usually a form of trussed roof. In recent years a trussless roof has been developed for airport hangars and certain other occupancies having large areas. It is a form of grid or "diamond grid" roof, consisting of short ribs of wood or metal, which are built up into a diamond shaped lattice framework in the form of an arch. Roof spans of this type may measure up to 200 feet or more.

(4) Concealed Spaces and Attics: We have pointed out that in connection with the flat and pitched type roof construction there may be, and quite likely will be, found concealed and possibly unventilated voids. These complicate the job of ventilating in time of fire. The ideal protection of these areas, of course, is to have them sprinklered, at least where they are not accessible to hose streams, or where convenient access to them cannot be provided.

Ventilator shafts or pipe shafts may terminate in this space, to further complicate fire extinguishment and ventilating.

As has been repeatedly stressed, advance knowledge by fire fighters of the location, nature and hazards of these concealed roof spaces is good insurance against costly delay in venting for a fire, and in pressing the fire attack. In fact, every company fire officer, if not every fireman, should be familiar not only with the interior construction (shafts, stairways, etc.) and occupancy of the risks in their district, but also of the roof and exterior construction. Most of these details are contained in Sanborn maps, but personal and periodic inspection of the properties themselves is far more satisfactory than map reading, or hearsay.

(5) Cornices and Gutters: In wood and brick-joist buildings, particularly, boxed cornices provide hidden spaces through which heated gases, smoke and fire can travel horizontally. They do not play as important a part in over-

head, or top ventilation as do roofs, but it may be necessary to open up these channels to divert smoke and heated gases, particularly where there are no fire stops.

(6) Roof Openings and Roof Housings: We have said roofs may be pierced by shafts, etc. There may be various necessary openings and roof enclosures which bear upon top level ventilation. They are directly related to vertical shafts and arteries such as stairwells, elevators, etc., which play such important part in ventilation.

Factors relating to these openings and roof enclosures include: their number, and location, and relation to the building; construction; clearance provided for wood framing around chimneys, boiler stacks, incinerator flues, ventilation and exhaust ducts and other heat producing equipment which extends through the roof deck and dumbwaiter; stairway bulkheads; skylights over light wells, air shafts; pipe vents, etc.

Skylights of all kinds, and the vertical arteries which they cover, offer the greatest means of successful roof ventilation. Most fire departments prefer that skylights or other permanent means of smoke ventilation be provided at the top of stair and light shafts, and over theatre stages and even covered courts. If thin glass skylights are provided, as many recommend, they should be protected by a screen against mechanical damage from above and by screen beneath to prevent injury to firemen and others from falling glass. A further advantage, in the case of the smaller skylights, not usually considered by builder and architect, is to have them so installed as to be easily removable, in their entirety. This saves fire fighters time in opening up and the building owner property damage.

Attention should be given to all roof enclosures for elevator machinery, ventilator and fan rooms and bulkheads at the top of stair shafts, with a view to establishing their relation to the plan for ventilating the structure in time of fire, as well as possible hazards to fire fighters, and to exposures. The roofs of certain buildings, such as those occupied as hotels, commercial, loft and light manufacturing, are often the location for structures housing repair and paint shops, upholstery and mattress renovation, valet and cleaning places, and other hazards incident to the particular occupancy of the structure. Only close inspection can forewarn fire fighters of these conditions and whether they constitute a hazard, or whether their facilities can be put to good use in ventilating.

(7) Roof Coverings: These play an important part in ventilating at roof levels, regardless of the type of building involved. Valuable time can be lost in futile attempts to open up roofs which, because of tough construction or covering, are impervious to the customary forcible entry tools carried by the average fire department. Many a fire fighter knows what it means to attempt roof ventilation, working against such obstacles as composition shingles, melted by heat into a hopelessly sticky consistency, or trying to cut through layers of insulation, tin, gravel and tar, only to find underneath impenetrable heavy construction. Many a man has been frustrated when he managed to open up a roof, and even to shove down the ceiling below, only to find that he had vented merely a closet or other cubicle which was shut off from the rest of the structure by a partition or closed door.

Roofs should be studied not only from the viewpoint of their combustibility; their soundness (load carrying ability); availability to the fire service in time of fire; their relation to exposures, but also to their possible value as a means of effective overhead, top-level ventilation.

Vertical Arteries

The success of any top, or overhead, ventilation is largely dependent upon prompt and effective utilization of existing unimpeded vertical arteries within the involved building to channel out the smoke, heat and gases, thereby preventing mushrooming and enabling the fire force to conduct early search and rescue, and locate and confine the fire.

Not all occupancies have unobstructed shafts or arteries which can serve in this capacity. This is particularly true of the average single or two-family dwelling house and, to lesser extent, of certain types of industrial and mercantile occupancies.

The more common vertical arteries or vents for smoke, heat and gases, and for fire, are: (1) stairways, both open, and to less extent, enclosed (both types of stairways may continue above the top floor and through the roof); (2) elevator shafts, open and enclosed; (3) dumbwaiter shafts; (4) light and ventilator shafts; (5) pipe shafts (for the most part in large buildings); (6) open courts; (7) chutes and ducts and (8) conveyors.

Some of these shafts project through the roofs, the openings being covered by bulkheads, skylights, ventilators or traps. Some, like elevator shafts, may terminate in small structures on top of the roof, in which the machinery is housed.

In spite of the recommendations of fire chiefs over the past half century, few of the ventilators, scuttles, or skylights have any sort of automatic opening device which trips open by means of smoke or heat actuated device. The only large scale exceptions are theatres, which in many states have automatic vents over the stage and which open to release the heated atmospheres at a given temperature, and certain manufacturing establishments which require venting of dust, fumes and odors in their processes.

The number and location of these arteries should be known to at least the first-due fire fighting assignments, together with the location of outside fire escapes and other outside approaches to the roof and upper areas of the building. Knowledge of the approaches to, and the methods of utilizing, these arteries in time of emergencies, should also be known to fire fighters.

In some cities, for example, hotels, office buildings and other large buildings set aside elevators for fire department use to insure no interruption in fire control and rescue operation. It is not unusual for first due fire companies responding to certain more important occupancies, to carry elevator keys, which are kept on apparatus, to speed use of reserved elevators, during off-business hours.

One important point in passing: Stairnor should firemen use shafts intended for egress of occupants, and for possible use of the fire fighting forces, should not be utilized for ventilation nor should firemen use shafts intended for ventilating as avenues of entrance or exit except in extreme emergency. Special care should be employed by firemen in using elevators in buildings involved by fire because of the possibility

No telling how far or how fast fire can spread through voids between roofs and ceilings of "taxpayer" stores. Four alarms were sounded for this Bronx fire because of common roof exposures. Note different types of skylights, vent pipes and the flimsy roof coverings.

The large sealed cornices of this type Mansard dwelling may offer footing for ventilating crews, but they also serve as flues for fire. Here Rutland firemen have opened up section of cornice and are endeavoring to ventilate Mansard roof and attack fire through side and top. Note asbestos type shingles and use of ladders and small lines.

of failure of electric current, with consequent stalling of cars and occupants in shafts, which may become "flues" for heated gases and smoke, or even flames.

And a final observation: Vertical arteries are *the natural paths for fire spread,* both upward, and horizontally. The extent of this spread will depend materially upon the promptness and effectiveness with which these arterial avenues are opened up to permit the free escape of heat, smoke and gases into the outer air, thus preventing the *horizontal* spread, and "mushrooming" of the fire.

Manpower in Ventilating

Efficient ventilation, as practiced today, or as it should be conducted, calls for at lease three fundamentals. The first of these is adequate, *trained* manpower; the second is adequate material facilities, tools and equipment; the third is coordinated effort, or teamwork. Without sufficient personnel, trained and equipped for the task, and operating as teams, ventilation becomes a matter of chance, and guesswork.

Logically, the larger and better equipped and trained these teams, the more efficient the ventilation operations and, consequently, the more effective the fire control and rescue operations.

Of all factors that influence ventilation at fires, that of manpower is the most important. Just how much the increase in the nation's annual life and property losses by fire is attributable to the inability of short fire crews to undertake ventilation, and to team up with their fellow fire crews in coordinating ventilation and fire attack, is problematical. That the currently prevailing shortage in fire crews in ladder, engine and rescue companies does adversely affect ventilating operations, and through it, fire attack and suppression, is indicated by the nationwide increase in the multiple alarms, transmitted in many instances, not so much for additional apparatus, as for manpower.

Whatever the cause, the fact of the situation today is that the theory and practice of fire service ventilation, at least as it concerns the paid departments, must be revised to bring it into line with the revisions downward that have taken place in fire company complements.

As for the volunteers, trained manpower has always been a problem. In some areas there is an overabundance of personnel, especially at certain periods of the day, and at weekends. At other periods, there may be a serious shortage. And in many volunteer organizations, trained men are seriously lacking at all times, for ventilating operations.

By virtue of the fact that response by volunteer companies is of necessity delayed either until personnel sufficient to man the apparatus has assembled at the fire station, or until sufficient men have reached the fire (where individuals respond direct to the fireground, following a coded notification) the problem of ventilation is even more serious than it is with their paid brother firemen.

According to the National Board of Fire Underwriters the grading standard for the strength of full-paid departments is set as with the following manpower, (including at least one company officer):

Companies	Least Number of Men on Duty
Within or near high-value district:	
Pumper company	7
Aerial Ladder Company	7
Service Ladder Company	8
Pumper-Ladder Company	10
Hose Company	6
Water Tower or Other Special Appliance Company	1 or 2
Salvage and Rescue Company (where required)	5
In other districts:	
Pumper Company	5
Hose Company	4
Aerial or Service Ladder Company	6
Pumper-Ladder Company	8

It is pointed out that the above schedule of strength "permits one man from each company to be assigned to inspection work and still leave an adequate day strength and a stronger night strength for fire fighting under normal conditions." At the same time, this authority points out that "for serious and large fires, the use of the off shift and of outside aid becomes necessary." . . . and further, it advocates "additional strength of 5 to 10 per cent of total manpower requirements must be provided to cover sickness-and-vacation periods to keep an effective operating strength."

This is somewhat of a reduction from the standards established in the 1920's and '30's, when firemen worked longer hours.

Notwithstanding these recommended crew complements, the fact is that it is rare today to see an engine company in the high value district rolling with more than five men, including an officer; or a ladder truck (aerial unit) with more than four or five men, including an officer.

Where in days gone by it was possible for a ladder company to perform the coordinated task of laddering a structure, opening up to ventilate, and to pave the way for enginemen, and even to assist them in advancing lines, today it is about all the crew of a single such company can do to get ladders into position. And, as some laddermen point out, if it wasn't for the one-man-operated mechanical aerial ladders, even this operation would not be possible.

According to many authorities, this condition of short crews is going to become more acute before it grows better. If so, this means the problem of ventilating at fires will become more difficult, and it is another reason for readjusting our thinking and actions on this essential subject.

One of the first questions, therefore, must be: can a more effective use of existing personnel (responding crews) be made than now exists? Next, can the personnel be provided better mechanical facilities which will in a measure, take the place of missing manpower? In short, are there ventilation operations which can be done as well, or better, mechanically than heretofore done manually? Lastly, are there structural improvements which can be made in buildings that will make for easier, more effective ventilation?

Space is lacking here for a critical, analytical study of these considerations. The author has discussed some of these and related questions with many fire protection engineers and chiefs, and very few of them have admitted we are currently making the fullest possible use of present responding personnel to insure efficient ventilation. Some believe the failure to do so is lack of facilities, such as modern aerial ladders or respiratory protective equipment, or of forcible entry tools. A few, who have pondered the questions, agree that there are manual operations being performed which can be done better mechanically. A majority will heartily endorse any and all structural facilities that will make for the automatic release of contaminated atmospheres from buildings involved by fire. Amongst the old timers particularly there still exists the hope that some day the principles of the automatic, overhead vent, urged by that stalwart of old, Asst. Chief Thomas Dougherty of New York City, may be universally adopted.

No matter how the experienced fire fighter may view these questions, he will agree that our entire attack strategy today is being scrutinized, overhauled and

revised, the better to have methods, material and manpower, cope with the serious problems of fire control and prevention posed by this chemical age.

One-Man—and "Team" Operations

In general, the present custom among more progressive fire departments is to to allocate the job of ventilating to the ladder companies. Insofar as overhead, or top, ventilation goes, this is the best strategy, because such ventilation calls for use of ladders and special equipment generally found only on such units.

The fact that ladder units may be expected to conduct ventilation operations does not relieve members of engine, hose or other company units from the study of ventilation practices, and training in their essentials. Under the conditions we have enumerated, (short crews and facilities) it may devolve upon enginemen and hosemen to do their own venting. Just as no member of an engine or hose crew its expected to pass up an opportunity to save a life in a critical emergency, merely because rescue is usually the task of the ladder companies, so no member of the engine or hose team should be ignorant of, or unprepared to ventilate, should the emergency arise. This may mean sending a man to the roof, or to open windows, or to break out doors. If supporting laddermen—members of the team are missing, and attack is being stymied by failure to ventilate, some members of the attacking force (engine, hose and rescue companies) must take on this task.

Where a fire is extending through a vertical artery, of whatever nature, such as stairwell, light, air, elevator or vent shaft, or dumbwaiter, it is absolutelv necessary that prompt action be taken by the first officer to arrive, irrespective of whether he is in command of a ladder or engine company. Doubtless many readers of this text have seen engine companies at a fire, where the officer in charge would not take any action, in the mistaken belief that this work was solely the job of the ladder company.

It is not claimed that the one man who may be sent to a roof by an engine company will be able to do all the opening up that is necessary on all occasions, nor is it intended that it is as safe and efficient to send one man as it is two, or a team. But in nearly every instance, such preliminary work as he is able to carry out may be of untold value to the company in furthering operations within the burning structure. Quick action on his part is the keynote! It would be his duty to make his way to the roof by the quickest possible means, and to remove coverings over vertical shafts, open bulkheads and dumbwaiter doors, and break out glass enclosures over the same where this is actually necessary.

This is the sort of emergency that officers and men should be trained to meet, and upon which they should have advance instruction. The question may be raised: how much good can a single man do in roof or top ventilation? The answer is "little," if he lacks knowledge and equipment, and the necessary fortitude. He cannot hope to lift off skylights or ventilator covers, as crews are taught to do, but he can start the exhaust movement of a lot of charged areas by knocking out only a few panes of glass in skylights, and by blocking open bulkhead and roof top doors.

Of course, the better-equipped ladderman, whether operating singly or with teammates, may be expected to do a more efficient job of roof level venting. If the roof cannot be reached except by means of ladders, it may take all hands of the crew to ladder the structure. But if the roof can be reached by fire escape, or from adjoining structures, no time should be wasted in dispatching men via these avenues.

Frequently, at smoky fires in habitational occupancies, the services of the first ladder company are required for immediate search and rescue. Notwithstanding this fact, however, if there is any conceivable way to get a man, or a team, to the roof or upper areas, to begin ventilation the attempt should be made, even pressing into service men of other units.

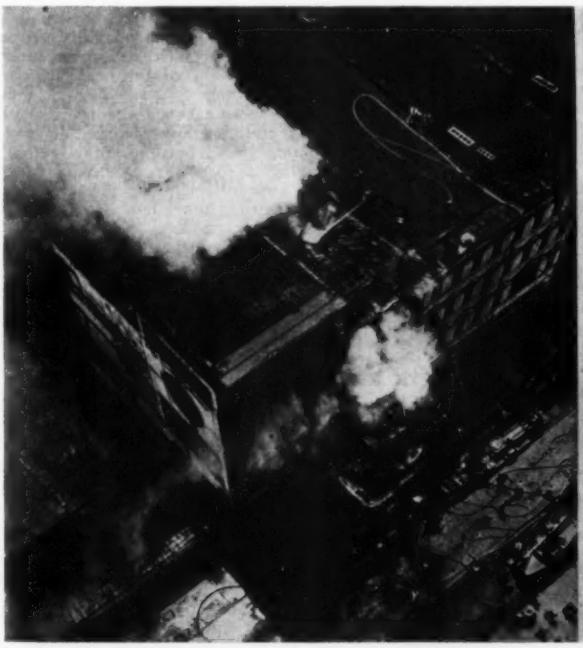
The ideal operation of opening up at roof level is of course best performed by a team, or teams, under the direction of an officer. In fact, no time should be lost in getting an officer to the roof, when top level ventilation is indicated.

If indicated by the size-up of the first arriving officer in command, men should be sent to the roof by the quickest, safest means, taking with them such forcible entry and other equipment as is indicated by the task to be done, and the manpower to do it.

Some departments have made up combinations of tools which one man, or two or more men, can carry for roof operations; others leave it to the officer in charge, or to the company personnel to select the equipment to be taken aloft. As said, conditions should dictate the equipment and personnel teams.

The tools considered essential by most fire departments are: (1) axe; (2) claw tool; (3) hook; (4) roof rope (many class this as of first importance); (5) roof cutter; and (6) hose roller. If conditions permit, and the fire indicates, cellar pipe and/or distributor and short lengths of light line should be included

(*Continued on page 236*)



Protective lines should be handy for roof ventilation. Toledo, Ohio, fire fighters wet down around roof vent made to draw off heavy smoke and gases during two-hour furniture store blaze. Note skylight on roof from which men are operating has been opened, although this building is not involved by fire.

Pent up heat and gases rise through roof opening in Abilene, Tex., building, housing a drug and clothing store. Note absence of heavy smoke conditions on street side. Fire may be expected to follow this burst of smoke, and fire fighters are advancing lines to roof to meet it. Roof ventilation is about the only way to vent some "solid front" mercantile buildings, such as store adjoining the fire building.

The Helmet—The Badge of The Fire Fighter

By JOHN ORNER, JR.

"NO, the old hat don't make much show, but its (sic) business all over." This statement appeared under the heading, "A New York Fireman," about 1880, and is as true today as it was then. By no means does it give us a full picture of the colorful life of the old helmet. To obtain this picture we must go back and trace the footsteps of The Old Volunteer Fireman of days gone by. The history of the Volunteer Fireman is more than two centuries old. It was back in 1736 that Benjamin Franklin first suggested that a fire company be formed, and so, the Union Fire Company of Philadelphia became the first organization of its kind in America. It did not take long for the idea to spread, and volunteer groups were soon springing up in many towns and villages throughout the colonies. The next year, in December of 1737, the General Assembly of the New York colony passed an act instructing the Corporation, "to appoint not more than forty-two able, discreet, sober men as firemen." Thus was the Volunteer Fire Department of New York established.

Many changes came about as new ideas were developed and the need for better equipment grew. The use of buckets slowly became obsolete as pumping engines began to appear. Hose Companies were formed to support their neighboring Engine Companies and, along with these, came the Hook and Ladder Companies with their hand-drawn wagons. From the inception of the Volunteer Fire Company, it was considered quite fashionable and very discreet to be a member. The names of many early political and business leaders can be found on early company rosters.

With the development of steam pumping engines, the fireman changed also. Some of the color of the days gone by was lost.

Shortly after the organization of the New York Volunteers, a caretaker of New York's first fire engine, named Jacobus Turck, invented the leather fire cap. This cap was similar to the headdress of the day, being a round hat of stovepipe shape with a narrow brim. The next forty years found many varieties of this leather headpiece being adopted. In 1764 the City of Boston adopted a black, leather, jockey cap with a short visor and a pewter badge bearing the number of the company. This type of cap was not very popular and not many groups used it; but after the introduction of paid departments, hats of this particular style became popular for off duty wear. Even today various styles of this cap are a part of the dress uniform of firemen, both paid and volunteer.

When fire hats were first adopted, black or brown was a standard color, with no added marks of identification. It did not take long for these to be replaced with brighter colors, embellished with artistic markings. Such companies as the Hibernia, Columbia, and Decator Fire Companies of Philadelphia were well known for their colorful uniforms and hats. The uniforms consisted for the most part of dark trousers; a thigh length coat with a flaring bottom; an ornate belt; and a leather cape, painted and decorated in much the same fashion as was the hat. Such uniforms were worn largely for dress affairs, but standby clothing of much the same style was always kept at hand should the alarm be sounded. Since fire might break out at any time, the mode of dress could not be too closely regulated. This would sometimes frequently result in working in street clothes. On the other hand, it was not uncommon for men to leave their running clothes in or near the quarters that housed their equipment.

In 1788 the firemen of Philadelphia adopted as regulation a stovepipe hat with a narrow brim. This hat had a black brim and a white crown and was used largely when fighting fire, while the more colorful hats were used for dress. Many of the early hats were made by saddlers and consisted of heavy leather, covered with many coats of shellac, or other preservatives. These hats were frequently subjected to heat and wetting during fire fighting operations, which caused them to warp. With this difficulty in mind, a saddler by the name of Mathew Dubois came up with a new idea of sewing a wire rim into the brim of the hat to keep it from warping out of shape. This wire also allowed the brim to be formed so that excess water could run off and down the back. It is not known just when the extended brim came into use, but this addition helped to set a pattern which has been carried down through the years with very little change. The extended brim has many uses other than the one just mentioned, such as shielding the face against heat (when hat is worn backwards), and protection for the back of the neck against sparks and falling debris.

In 1836 a new personality entered the picture, a young fireman named Henery T. Gratacap, who became interested in the making of fire hats. Having completed an apprenticeship in 1828 under a William Hinton, he, being an enterprising young man, opened a small factory and began to manufacture hats for the firemen of the City of New York. He soon made quite a name for himself, and his hats came into great demand. He was capable at times of turning out over a hundred hats a week. His skill and workmanship brought many calls for special hats and it was through one of these calls that he developed the raised and stitched hat front. By this time the hat had become a dome shaped affair made of pieces of leather sewn together. The seams were called combs, and the number of such combs in a hat depended on the style and workmanship. The purpose of the dome shape was to allow the water to quickly run off the top of the hat and thus help in some small way to keep the hat from becoming water-soaked.

The introduction of the raised front proved very popular. The idea of a front badge was not a new one; it had been in use long before, with the stovepipe hat. What was new was the way in which Gratacap incorporated the badge into the structure of the hat. This was later replaced by a well shaped

The helmet has saved many a fireman from injury by falling debris at fires. The fireman here shown sprints away from a shower of masonry from a collapsed chimney at a Chicago fire on October 24, 1953.

This helmet probably saved the life of the author of this article, when he was thrown from a fire truck while responding to a fire at the University of Maryland. He struck a telephone pole head first, and the helmet was driven down over his left eye.

piece of leather mounted on the front and supported by an eagle that seemed to rise up from the top of the dome and grasp the front piece in its beak. This eagle was first made out of leather, but was later made from tooled metal. Many other holders were developed, after the original idea was accepted, some of which are still used. Two of the most predominant ones are the eagle and the tiger. Even today wherever a high front is used, the eagle and tiger may be found.

The first stitched hat front was made for Ebenezer Silleck, Foreman of Engine Company No. 14. This front piece had the number 14 cut out of white leather and stitched on a black background. Gratacap later reversed this procedure and stitched pieces of leather with the figures cut from it on to the same background as used before. Both of these methods are still in use today. "It was commonly agreed," according to a resolution in the common council of New York as early as 1812, "that the lettering and the numbering would be as uniform as possible with no flourishes or gilt letters to be put thereon."

Since fire companies handled different phases of the work on the fire ground, there soon were introduced designs for the front pieces of companies doing different work, i.e., ladder work and hose handling. Also the officers rated special attention with respect to recognition and had front pieces that were different from those of the rank and file both in color and design. The Chief Engineer was entitled to wear a white hat and a guilded front embossed with an artistic design of a fire engine worked in. The rest of the officers usually wore fronts of white with black numbers, while the regular members had fronts of black with white numbers. There was also the further distinction of having the name of the company and the design of hook and ladder for hook and ladder companies and a coil of hose for the hose and engine companies placed on their hat fronts. Although this did not hold true for all companies, it was a very popular fashion and can still be found today.

The manufacture of fire hats was not just one of necessity. Through the years, special designs were called for, for the purpose of presentation to honored members and for use in parades. These hats had no limit as to cost or ornateness. Some were inlaid with gold and silver and a few even had valuable gems worked into their design. The most elaborate hat that Gratacap made was presented to Foreman Hunt, of Sacramento, California. That hat had inlays of gold and silver as well as several precious stones, and cost $1,350, with $850 of this price covering the jeweler's bill. It was common practice to have hats of real beauty to match the exquisite parade uniforms of the day. The cost of these uniforms came from the pockets of the men themselves along with the cost of decorating the engines with magnificent paintings and plating of gold and silver.

The old fire helmet has saved many lives; and it is doubtful if its popularity will ever be eclipsed by a new design. Although it has been replaced in some instances by plastic hats, it still holds the limelight. Cairns and Brothers became the successors of the organization that Gratacap founded and are one of the foremost producers of fire hats in the world today.

The history of the old volunteers is a colorful one. The old hat has held a very important place in that history. It is a symbol of the men who responded to calls for help, many of whom lost their lives in line of duty.

North Jersey Volunteers Have Training Ground

The North Jersey Volunteer Firemen's Association, Inc., was founded in 1928 and incorporated ten years later, for the purpose of furthering the rights and privileges of the volunteer firemen of the counties of Passaic, Bergen, Morris and Essex, New Jersey, and for promoting mutual aid and firemanship training between and among the 25 fire departments and 64 fire companies of the area.

In 1949, with a membership of approximately 2,000 in the 64 member companies at the time, it was felt that something further should be done in the way of intensive training, with emphasis on "training-by-doing." Many of the more progressive members had traveled to the New Haven Fire Department training ground where they became thoroughly converted to practical performance-training, to use a new term for it. They found out what so many volunteer fire departments have long realized that theory and lecture and platform schooling is excellent in its way, but the more "on-the-fire-ground training" a volunteer can have the better fireman he will become.

All this was very fine, but like many other area organizations the N.J.V.F.A. was not rolling in wealth and it takes something beside good intentions to develop a sound training school. However, this didn't deter the "sparkplugs" of the group, who entered into negotiations with the Passaic County Freeholders with a view to securing the necessary financial assistance. And when the program was duly submitted, the County granted the association the sum of $1,000 annually.

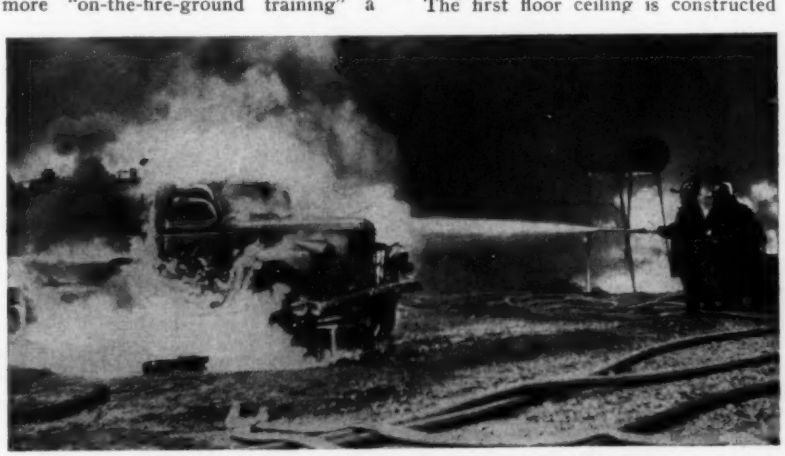
The site for the School was procured from the Township of Wayne, which deeded the vamps a two-acre plot of land with a lake adjoining at $1.00 per year for a period of 20 years at Mountain View. This settled the problem of water for drafting, so often a stumbling block to setting up a comprehensive training ground.

But this was just the beginning. The hard work came later. The land had to be made ready and to do this members of several fire companies, working weekends, aided and abetted by bulldozers, cleared the ground and graded it, ready for construction work. Meantime plans had been drawn for the physical features which it was hoped ultimately would be installed, such as drill tower, smoke building, and the various other requisite elements to provide a Grade A Training School.

The first unit to be completed was a "smoke and heat building" in which fires of different kinds could be kindled and extinguished. This unit measures 20 x 30 ft. with a basement and first and second floors. It is constructed of concrete block and other non-combustibles and the first floor has a basement entrance down which men in training must go into the heat and smoke. Four windows are located in the basement; these are for ventilating purposes only, the glass having been replaced by sheet metal.

To enter the second floor there is a corner stairway, with five steps leading onto a landing, from which five more steps lead off at an angle to the floor. On this floor there are seven casement windows, which are also covered with metal. This floor is divided into two rooms at the end opposite the stairway. A stair leads to a scuttle hole in the roof, which is also used for teaching ventilation.

The first floor ceiling is constructed



Extinguishing fire in tank truck at North Jersey Fire School.

Sliding life line, employing aerial ladder, is one of evolutions included in North Jersey Fire School training program.

of heavy reinforced concrete to withstand not only heat but actual fire. Heat and smoke are produced in the structure by burning fuel oil, contained in two 140-gal. steel tanks. A pyrometer has been installed on the outside of the building to indicate the temperatures in the basement and first floor.

The volunteers also secured and erected on the property a 20 x 4 ft. steel tank. This was mounted on concrete 4 ft. above a concrete vat, to simulate a railroad tank car. A 275-gallon metal tank also was secured and installed 12 ft. above an earth pit. This is used in training for the extinguishment of oil fires. A prize possession of the School is a 2200-gal. oil and gasoline tank truck which affords training in combating fires in such transports. Finally, there is a 25-ft. hexigon vat, also used for extinguishing oil fires. Facilities too, are provided for training in handling magnesium, rubber, electrical and running gasoline fires.

As there is as yet no city water supply available, a dry hydrant has been installed on the property; this has two 4½-in. steamer connections—one a N.Y. thread, and the other National Standard thread. This meets the requirements of the County departments which use both types of hydrant connections.

Facilities for parking at least 500 automobiles and trucks are provided. Another important ultimate improvement will be a suitable wire fence to encompass the training ground and thereby keep the curious at a safe distance.

One of the first investments by the School was for air demand type masks, which are used in training men in the smoke, gas and fire building. Additional respiratory protective equipment will be added later.

The volunteers are working diligently to gain funds for the drill tower and other projects. At present, the School is largely financed from the funds of the individual members, who pay $2.00 per year dues, and the company memberships of $10 each.

Instruction presently is being given by four instructors, one from each of the Counties. They are: William Crane, Chief of the Little Falls Fire Department; Theodore Hayunga, Assistant Chief, Wycoff Fire Department; Peter Pignatolli, Chief, Cedar Grove Fire Department, and George Moussab, Chief, West Paterson Fire Department.

There are no traveling instructors. The outdoor sessions are held at the Training Ground during the summer months, and the departments carry on indoor and local outdoor training and drills at other times. Companies reporting to the School bring and use their own equipment and facilities.

Officers of the North Jersey Volunteer Firemen's Association are: William C. Twaits, Jr., President, Towaco, Morris County, chairman of the building and grounds committee; County Vice-Presidents are: Albert J. Coleman, Passaic; Lester M. Requa, Essex; Donald G. Gill, Morris; Eugene H. Spender, Bergen. George E. Barker of Hawthorne is Treasurer, and Emil J. Meyer of Packanack Lake, is Secretary.

RURAL FIRE DEPARTMENT BUILT TO MEET LOCAL CONDITIONS

Apparatus Specially Designed to Handle Problems Encountered in Protecting Rural Area

MANY a volunteer fire department owes its being to the enterprise and initiative of some one person who sired and sponsored it.

So it is with the Dover-Pembroke Fire Department Volunteer Association of Manakin, Goochland County, Virginia. Its prominence in rural fire fighting, which has attracted fire fighters from all over Virginia and bordering states, is largely due to the contributions of one man, Edward F. Willis, retired 45-year-old financier of the Dover District.

According to Willis, there were too many chimneys throughout Goochland County, serving as "tombstones" of dead homes and businesses. Also, he remembered the time when he ditched a flaming gasoline truck in a close brush with death after the vehicle's brakes had failed on a grade leading into town. And so, when the urge to do something about the fire hazard called for action, Ed. Willis set out to organize a fire department.

In order to gain experience with fire equipment, and to protect his estate, he bought his first piece of equipment, a 1920 American LaFrance pumper from the City of Richmond. The veteran piece of apparatus was ideal for the estate, which is equipped with fire hydrants, but it wasn't much of an asset to the rest of the county, which had little water available to fire fighters, such as there were.

Mr. Willis's next purchase came shortly after: a John Bean high pressure fog unit, carrying 450 gallons of water and equipped with tools and appliances. Here was the answer, or at least a partial answer, to the county's need for fire protection. However, although this equipment proved its value, being the only fire equipment in a county which is 40 miles from political bound-

The first piece of apparatus of the Dover-Pembroke Fire Department: a 1920 American-LaFrance unit purchased from Richmond, Va.

Tank truck of 3600 gallons capacity.

ary to political boundary, as the crow flies, much too often the water supply was inadequate. Re-fills in some areas were not available. So, something further had to be done.

The men on the Willis estate, who manned the equipment, and a few neighbors were not surprised to see a 3,600-gallon tanker pull into the shop. A few days later, completely redecorated with red paint and equipped with a few sections of 1½-in. hose and a portable pump, it took its place on the emergency line.

By this time enthusiasm for fire protection began to rise throughout the Dover District. The "Willis Fire Fighters" were beginning to win acclaim over some amazing fire extinguishing operations. There followed as a natural course, the proposal to organize a volunteer fire association.

The need for still further equipment continued to grow, however. There were occasions when it would have been advantageous either to relay water from the tanker to the fog unit, or to draft water from a creek and then relay it to the tank. A small unit could go off the black top roads where the tanker could not, especially in wet weather. Tactics often called also for the employment of volume streams in conjunction with the high pressure fog. So, to meet this problem a jeep with a midship pump was purchased. One and one-half-inch hose was added to the unit, together with nozzles and fittings.

Training Program Started

The Dover-Pembroke Fire Department Volunteer Association was formed and officers elected, with C. T. Paxton as president, and Edward F. Willis as fire chief. The maximum membership was sworn in the first night, and plans for training all personnel were immediately laid. But came the question, where to train?

Again, Fire Chief Willis came to the front. He gave the land for the training ground. Several acres were cleared; a natural spring was excavated to form a pond. A large oil pit was constructed and, soon after, two structures blossomed out on the training grounds. The first was a one-story affair; the second, of two stories. Both were frame construction.

Professional fire fighters and state instructors were brought in to point up the training program, which soon attracted firemen from a wide area. Although theory was taught, on the training ground emphasis was placed on actual fire fighting. The first course was one of the most stringent ever conducted for rural fire fighters. It bebecame quite common during a night lecture course for the siren to sound an alarm, and when the apparatus rolled out, the sky would be alighted. The call would be to the training ground, where everything on the grounds would be afire, and dummies representing people would be in the windows of the "dwellings," to be rescued.

The Chief advanced the idea that a few gallons of high pressure fog gotten to the fire quickly could contain a fire while the heavier equipment was moving up. Taking into consideration the county roads, particularly during inclement weather, the idea proved practical. Brush fires were a nuisance, but they had to be knocked out before they swept into the heavy timber, or destroyed houses. The terrain over which these fires were fought was rugged. And so it came to pass that the Chief designed the "Baby Bean," a high-pressure fog unit with 150-gallon water capacity, but equipped with forestry conservation tools and appliances.

Equipment Decentralized

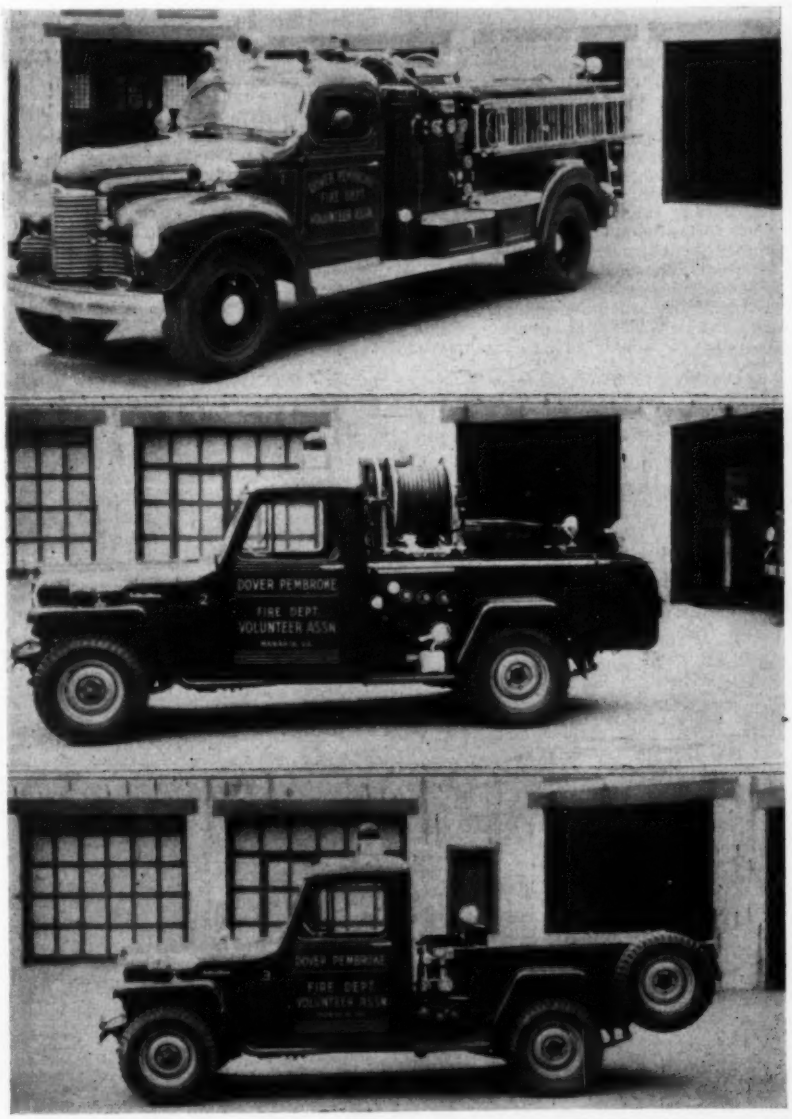
Next, the Chief advanced the idea of decentralization of equipment for faster response. This led to the purchase of an 800-gallon water tank mounted on a standard chassis, equipped with a portable pump, 1½-in. hose, nozzles and fittings. This unit is based at Crozier, Va., within the Dover District of Goochland County.

The parent unit receives the emergency call after the Crozier unit has been dispatched to the scene within its responsible district. The parent unit answers with additional equipment. The Crozier unit has completed its new fire station, the funds for which were raised by volunteer donations. Plans are now under way to organize other fire units within the county around the parent unit. The additional potential equipment will be so located as to give the maximum coverage.

Recently another tanker was purchased. It is now being readied to receive its red coat. When this unit is in commission, the Dover-Pembroke Volunteer Association will have over 10,000 gallons of water on wheels.

But Chief Willis is not yet satisfied. His organization is growing, and he hopes in the near future to add a number of improvements, including a ladies' auxiliary and a rescue squad.

Nothing is impossible, is his motto. And from the growth of the Dover-Pembroke idea, that would seem to be the case.



Top: A high pressure fog unit was the second piece added. Center: This "Baby Bean" was built from specifications of Chief Willis. Bottom: A jeep with midship-mounted pump was procured to travel over country roads.

Three Fire Stations Burn

Within sixty days, three fire stations, two of them in New York State, burned with estimated property losses of over $125,000. What is worse, the fires left three communities with practically no immediate fire protection.

Thibodaux, La.

An unexplained early morning fire caused over $10,000 damage to the Protector Fire Company No. 2, of the Thibodaux Fire Department, late in November.

The fire was discovered about 5:30 A.M., of a Monday, when flames broke through the second floor of the Protector building. Housed in the structure was the Protector pumper and Thibodaux emergency unit, which is usually quartered at the Hook & Ladder Company's house. It had been transferred pending completion of a building program of the Ladder company.

The fire apparently smoldered for some time before breaking out. It is believed to have started on the ground floor, worked upward to the second and spread to the superstructure of the Protector truck.

Major damage was done to hose, body, ladders, and equipment. The same type of damage was inflicted on the emergency unit.

Ironically enough, Protector company planned to announce within a week its plans to construct a new fire-resistant building, the work to start in January. The company expected to ask for public contributions for the new structure, to cost about $8,000. Members expected to furnish free labor in its construction.

Vista, Westchester County, N. Y.

The Vista Fire House, with both its pieces of fire apparatus and all equipment, burned to the ground January 15th while Vista volunteers, aided by firefighters from New Canaan, Conn., and Pound Ridge, N. Y., fought a losing battle to save it.

Vista is located almost on the boundary line between Westchester County, N. Y., and Fairfield County, Conn., and its firemen fight fires in both states. It is a member of the Westchester County Fire Chiefs Emergency Plan.

Both its pumpers, Engine 141 and 153 in the County set-up, were completely destroyed, the latter a 1950 Maxim of 500 G.P.M. capacity, and the former also a Maxim of 350 G.P.M., built in 1923.

The cause of the fire is unknown but is under investigation by the National Board of Fire Underwriters arson experts. Fire Chief John Jordon reported he was in the building at 9:00 P.M. and everything was all right at that time. But at 10:48 the alarm was telephoned to the New Canaan department, which activates the Vista siren. New Canaan was unable to sound the Vista alarm because by then the wires were burned through.

All New Canaan volunteers were summoned by a five-blast alarm on that department's signal system and two trucks and about 40 men rolled to Vista. Two pieces also responded from Pound Ridge, the nearest Westchester department. Bad weather and roads made for hazardous driving conditions but all units safely reached Vista. Fire Chief John Pickering of New Canaan reported the one-story frame structure was entirely involved by flame when his truck drove up.

Firemen pumped from a nearby well and hauled water from Lundy's Pond in their unsuccessful effort to stop the blaze. Several of the volunteers tried to save the equipment but were driven away by the radiated heat.

As in the case of Thibodaux, the Vista volunteers were planning a new fire house when fire struck. The destruction of their station and all equipment, although a bitter blow to them, and to the townsfolk in their fire district, in no wise discouraged them, and before the ruins were cool they had met and determined on a program of reconstruction and rehabilitation.

A pumper has been temporarily secured from the Maxim Company and a service ladder truck, complete except for clothing and some minor equipment, has been presented to the Vista volunteers by the Town of Greenwich Fire Department. This Seagrave ladder, in good condition, had just been replaced by an aerial in the Cos Cob Fire Department.

Various fire departments in the Fire Chiefs Emergency Plan of Westchester have supplied hose, tools and other accessories for the temporary apparatus to provide a measure of fire protection. Meanwhile, Pound Ridge, New Canaan and South Salem fire forces are "covering" Vista.

Sodus Point, N. Y.

A Christmas Eve fire destroyed the Sodus Point 2-story fire house about 10:45 P.M., completely wrecking all fire fighting equipment, including two pieces of apparatus, with loss estimated at $80,000. An adjoining two-story frame house was badly damaged, as was the one-story Community House on the opposite side of he fire station.

The fire was detected by a nearby resident, who alerted a fireman living next door to the station. The latter attempted to sound the fire alarm from outside the fire station building, but the siren was cut off by the flames after it had blown only a few times. He then tried to reach one of the trucks to drive it out, but was driven back by the flames.

Minutes later the fuel tanks of the apparatus blew up and the fire spread to the adjoining frame residence. Meanwhile, firemen reporting in answer to the abbreviated blasts of the siren, and the light of the fire, stood helplessly by with no means of combating the blaze.

Sound Beach Presents Ladder Truck to Stricken Vista

As soon as Sound Beach, Conn., Fire Chief H. T. McElvery heard about the destruction of the nearby Vista, N. Y., fire station and all its equipment, he called a meeting of his Department's apparatus committee to see what could be done to help their impoverished Vista brothers. Result—an outright gift to Vista of a Seagrave service truck, in good condition. The apparatus had just been replaced by a new Seagrave aerial and was about to be sold. View shows the gift truck with Vista officials (l. to r.) Clifford W. Knapp, Jr., chairman, Fire Commission; Chief John Jordon; Joseph Vitiello, Jr., President, and Sound Beach Chief McElvery in front of the Greenwich, Conn., Fire Department headquarters (Sound Beach Fire Department is a unit of the Town of Greenwich Department, headed by Chief Stuart Potter).

The Telephone—and Pranksters

One of the arguments for replacing street fire alarm boxes with telephones is that it will reduce the number of false alarms.

Those who are concerned with this question might consider the case of Art White, superintendent of a Hamilton, Ontario, building, who was reduced to near-nervous prostration by an unknown prankster who employed the telephone to send cabs, and "fire reels" and long distance calls to be the bewildered super.

While repairing a water main in the building, a fleet of taxicabs arrived outside, supposedly ordered in the name of White for a "convention." Then he was summoned to some phony long distance calls—San Francisco and New York, to which places he had supposedly called. Then came more taxis. The climax was reached when White heard sirens outside and firemen pulled up before his building, ready to go to work.

It took a lot of explaining, but the luckless White finally convinced them it was all a telephone hoax. Without a clue, the superintendent stayed late, trying to finish his job.

N.B.F.U. Fire Resistance Ratings

The National Board of Fire Underwriters, of New York, has just published a 48-page pamphlet of fire resistance ratings which is a revision of Appendix A of its National Building Code.

The pamphlet is of particular interest to architects and building engineers, as well as public officials interested in fire safety in buildings. In addition, the National Board says, it is of value for use in connection with other building codes in force in any community and is by far the most complete tabulation of its kind ever published.

The pamphlet contains a number of tables on fire resistance ratings of beam, girder and truss protections; ceiling constructions; column protections; floor and ceiling constructions; roof constructions, and walls and partitions.

The easy-reference tables are set up in terms of minimum requirements for specified fire resistance and in such form as to fit the requirements for hours fire resistance given in building codes.

Single copies of the pamphlet are available free of charge on request to the National Board of Fire Underwriters, 85 John Street, New York 38, N. Y. For those living in the Middle West, copies are available at 222 West Adams Street, Chicago 6, Ill. West of the Rockies, requests should be made to 465 California Street, San Francisco 4, Calif.

"Simplified Water Supply Testing"

That is the title of a 24-page booklet recently published by the Federation of Mutual Fire Insurance Companies, 20 N. Wacker Drive, Chicago 6, Ill. Copies may be had by writing the above organization.

The chapters deal with: Factors Necessitating Water Supply Testing; Flow Testing Equipment; Principles of Testing Methods; Mechanics of Water Supply Testing; Methods of Calculating Water Flows; Sample Flow Test Calculations and Data Sheet; Interpretation of Test Data-Analysis of Adequacy and Trouble Shooting.

Buffalo Takes Delivery of Its Rebuilt Fireboat

The Buffalo, N. Y., Fire Department recently took delivery of its rebuilt fireboat which had been renovated at a cost of $364,700 by the Sturgeon Bay, Wis., Shipbuilding & Dry Dock Co.

Harold R. Becker, then Commissioner, said the ship also has been renamed the "Firefighter," instead of the "W. S. Grattan" as before.

The decision to rebuild the 53-year-old ship, rather than purchase a new one, was made after an engineer thoroughly studied the craft a year ago. He found the Swedish iron hull of the boat was in good shape.

As she now stands after the seven month renovation job, the "Firefighter" is equipped with four diesel engines, each capable of 500 horsepower and two other engines which generate the boat's electric power. The boat formerly was steam-operated. In tests after delivery, all five turret guns tested at 16,100 gallons per minute.

The two main engines are Caterpillar D397 Diesel marine power units and are connected to pumps with Twin-Disc power take-off.

The four two-stage, centrifugal pumps were manufactured by Dean Hill Pump Company of Indianapolis and each delivers 3750 gpm at a discharge pressure of 160 psi.

The power take-offs on the propulsion engines permit pumping from all four engines when maximum gpm is required. The marine gears are put in neutral when the engines are used for pumping.

Radio equipment was engineered by Joseph A. Fahrner, Fire Department radio supervisor. It includes a 60-watt Motorola transmitter on the Department's frequency and a 30-watt RCA Marine Transmitter on Channel 50 and 3402.5 Coast Guard frequency by special arrangement to permit the *"FIREFIGHTER"* close contact with Coast Guard craft in the Buffalo harbor. In addition there is a 75-watt combination public address and intercommunication system for contact between fore and aft, the engine room and the pilot house. The shipboard communications also includes the usual equipment in all fire houses, the Department's dial phone system and voice alarm.

Commissioner Becker said the rebuilt craft has increased pumping capacity, more armor belt for breaking ice and twin propellers instead of one as before. He estimated that the ship will pay for the renovation in terms of reduced operating costs.

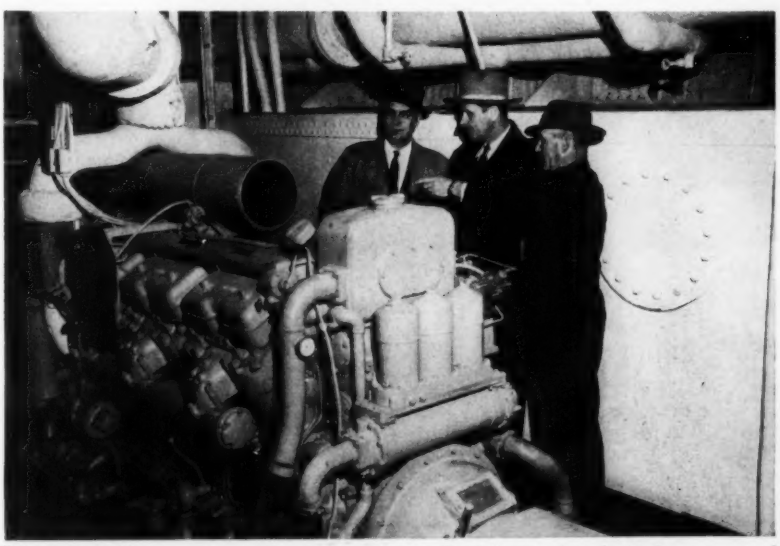
The "Firefighter" also is equipped with a 12-foot hydraulically operated mast with turret gun. Another innovation is an acoustical telephone booth in the engine room. Here, a crewman may poke his head between soundproofed walls and talk on the phone above the roar of the Diesels.

When the "Firefighter" returned to the Queen City of the Lakes, she was met by the department's amphibious "Duk."

Commissioner Becker, who found the ship can now operate easier in shallower water and has more all-round maneuverability, named Captain Howard A. Metzger, formerly of Engine 15, skipper. Coast Guard units and the "duk" have been used as standby equipment while the fireboat was in drydock and together fought several extra alarm fires during the seven months she was away.

PAUL C. DITZEL

The "Firefighter," Buffalo's 118-foot, 188-ton fireboat, after the conversion to Diesel. The vessel is capable of throwing 15,000 gpm of water, has improved maneuverability, considerably greater efficiency and economy.



Patrick J. Mullane, right, master of the fireboat, shows Mayor Joseph Mruk, center, and former Commissioner Harold R. Becker, left, one of the 500-horsepower Diesel marine engines which propel the "Firefighter."

Fast Fire Guts Factory

The destruction of the Ducane Heating Corporation, Borough of Lincoln Park, N. J., with loss on building and contents of $250,000, was the worst fire disaster in the history of the Borough, according to Fire Chief Alfred D. Caldara.

The company manufactured furnaces in a single one-story building 200 ft. long by 60 ft. wide. The structure was built about 30 years ago, of brick side walls with iron truss beams and wood and tar roof. There were no fire walls or ceilings in the building and the only partitions were around the boiler room and office, the former occupying the west side and the latter located at the front or south side, of the structure.

There were at least 15 large factory type steel frame windows. The roof was supported by 10 angle girders, 5 in. x 3 in. x ⅜ in. bolted and braced. The floor was concrete. The laboratory, which occupied the rear of the building, was of frame construction, size approximatley 30 ft. x 16 ft.

A fire door separating the boiler room was open at the time of the fire, as was a fire door separating the laboratory from the rest of the structure. On the west side of the boiler room a 5,000 gal. fuel tank was located. The east side of the building housed trays and racks, aluminum foil, tools, dies, work benches, etc. Heavy, expensive, machinery occupied the center of the structure. The front office and upstairs areas were frame construction. The shipping room was located in the south end of the building. There was a considerable quantity of paints and thinners on the premises.

The cause of the fire, which is believed to have started shortly before 3:00 P.M., was not determined. The fire department received the alarm at 3:10 P.M. and upon arrival found the building heavily involved in flame and dense smoke, making it impossible for firefighters to work into the structure.

Within five minutes from the arrival of the first fire unit, the blaze had spread throughout the entire building and very shortly the rear portion of the roof caved in.

At one time there were 12,000 sq. ft. of burning area in the building, as well as burning brush and other material over a large area outside the blazing structure.

The fire apparently originated in the rear of the building, outside a heavy spray booth. The operator of the spraying equipment ran for an extinguisher but had to flee for his life without ever using it. At the cry of "fire" all employes of the factory ran out immediately.

A delay in the response of the fire department was occasioned when, through some oversight, the department received the wrong number and it was necessary to check back with the phone company to correct the error.

Attempts to use small streams from tank trucks were futile. The first large pumper was stationed at a nearby brook and pumped through two 2½-in. lines on the fire. Firemen were forced to operate on exposures, and two units were detailed to meet the threat posed by burning brush and other material adjoining the plant. In protecting surrounding areas 1½-in. lines were used effectively.

Firemen were apprehensive about possible explosion of the 5,000 gal. fuel oil supply and concentrafed streams on the tank area to keep it cool. Electric lines carrying 4,160 volts were cut soon after the fire started as safety measure; the transformers and mounting poles were not burned.

Firefighters were handicapped by lack of water. Ultimately the brook, from which they were drafting, failed as a supply, and pumps had to be shut down until the little stream could fill again. Meanwhile tank water carriers were used where possible, while hose lines were stretched to another source of supply about 3,000 feet away. This operation was undertaken with the help of incoming reinforcements from Towaco, Pequannock, Community No. 1 P.O.L., No. 2, and other companies, summoned soon after the Borough firemen sized up the seriousness of the blaze.

Altogether about 125 firemen from seven fire companies and three towns responded to the call for assistance. There were 6,000 feet of 2½-in. hose and 1,000 feet of 1½-in. hose used together with 500 feet of booster hose. Three pumpers operated steadily for approximately 4 hours, then intermittently until 2:00 A.M. The fire was declared out at 6:00 A.M. the following day. Estimated water pumped exceeded 500,000 gallons.

Civilian defense and other volunteer workers aided firemen in the early stages, when forces were shorthanded.

Situation (top) about 3:10 P.M., September 3, 1953, when Lincoln Park, N. J., volunteers arrived in response to delayed alarm. Bottom photograph shows wreck of plant after flames had subsided.

South River, N. J., Hit by Two Major Fires

The value of mutual aid was once again proven as two major fires occurring within three weeks of each other over the Christmas Holidays caused damage estimated in excess of $300,000 in South River, New Jersey.

The first of the fires broke out shortly after 6 P.M. on the night of December 17th at the plant of the Templar Oil Products Company off the end of Whitehead Avenue. South River firemen, under the direction of Assistant Chief Milton Meafe, arriving in response to a telephone alarm, found the fire well under way in the 100 by 150 foot, one story, building which housed equipment for the manufacture of adhesive cement for linoleum blocks and wall tile, as well as offices of the company. Outside aid was requested and apparatus and firemen from the Sayreville Engine Company 1, Morgan Hose and Chemical Company, Old Bridge and East Brunswick volunteer fire departments rushed to the scene while Engine 1 of the Milltown department stood by at South River fire headquarters.

A strong westerly wind and a 10-degree temperature greatly handicapped the firemen who battled the flames for six hours before bringing them under control. Hundreds of drums of the adhesive cement stored in the building added to the intensity of the flames, which were visable for miles. Sparks set fire to nearby fields threatening other property in the area, but the determined efforts of the frozen fire-fighters prevented any damage to a new warehouse only fifty feet from the main plant.

Walter Storan of the East Brunswick department was overcome by smoke and was taken to the St. Peters Hospital in New Brunswick where he was admitted as a patient. Three other firemen suffered frostbite and minor injuries but were treated at the scene by members of the South River, Sayreville and Milltown Rescue Squads. In addition to treating the injured, the rescue squads provided hot coffee and sandwiches for the weary firemen and provided floodlights to aid the firemen in their operations.

Walter Marvin, of Westfield, presi-

(*Continued on page 239*)

Apparatus and temporary housing of Mary Elmer Lake Volunteer Fire Company

Mary Elmer Lake V.F.D. Matures in Four Years

The nation's enterprising volunteer fire service continues to grow apace. And the story of that growth, as written by the histories of small community and rural fire companies, makes fascinating reading for those who see in the volunteer service the epitome of American civic progressiveness.

Here's a unit that matured in just four years. It is the Mary Elmer Lake Volunteer Fire Company, address: R. D. #1, Bridgeton, New Jersey.

The company was organized in February, 1950, and chartered and incorporated in 1951. It presently consists of 35 members and protects approximately 400 homes in an area that is growing rapidly.

The volunteers started out with a 1923 Reo pumper and later floated bonds for $3,000 to purchase a 1940 Reo 500 G.P.M. centrifugal unit. This vehicle was smashed up in an accident, about the time the vamps were building a tank wagon upon which they installed a pump and which became for a time their only piece of fire fighting equipment.

Not discouraged by the smashup that made inoperative their one pumper, the company members went to work to replace it and expand their rolling stock. With the help of money received from the insurance company, and presentation to the company of a GMC chassis by the Seabrook Farms, the volunteers constructed a GMC pumper in 1946 which they outfitted with equipment salvaged from the wrecked vehicle.

Acting upon suggestions of members and others, the apparatus was painted white, which the members believe is helpful in night operations and in negotiating highway traffic.

A 550 Mack pumper was acquired later, largely as a result of the efforts of ten members of the organization, who gave of their spare time to cut up and dispose of junk in a fund-raising program. This unit has a 500-gallon booster tank and mounts a 1500 watt generator and two floodlights.

The Company has an auxiliary of about 20 women, who have been helpful in acquiring helmets, boots and coats for the volunteers.

The main project of the organization is the financing of a fire house. At present the Company is self-sustaining, expenses being met through contributions, cake sales, rummage sales, fairs, carnivals, scrap drives and barn dances. The organization receives no money from the township (Hopewell) which has one other fire company. Together the two departments protect an area of about 38 square miles.

Company meetings are held the first Wednesday of the month and fire drills conducted on the 3rd Wednesday. The Ladies Auxiliary meets the second Wednesday.

Present officers are: George Peterson, President; W. R. Jess, Fire Chief and Reuben Dunfee, First Assistant Chief.

If the past is any criterion, the Mary Elmer Lake Volunteer Fire Company, R. D. #1, Bridgeton, N. J., will not have to wait long to have its own fire station, and it will continue to expand its fire-fighting facilities as the days pass.

L.A. Fire Station Wins First Prize

The plush $119,000 fire station housing Engine 71 of the Los Angeles Fire Department won first prize recently in the fire division of a Los Angeles Beautiful contest sponsored by that city's Chamber of Commerce.

The station, believed to be the most expensive single engine house west of Chicago, is located at Sunset Boulevard and Beverly Glen Boulevard, in the heart of the residential area of Hollywood's film colony. Some of moviedom's top names are frequent visitors at the station.

An Inglewood fire station, a Los Angeles County Fire Department house and L. A. City's Engine 83 placed second, third and fourth, respectively.

PAUL C. DITZEL

N.B.F.U. Starts Training Program

Edgar P. Slack, professor and chairman of undergraduate physics at Brooklyn Polytechnic Institute, Brooklyn, N. Y., has been retained by the National Board of Fire Underwriters as director of its new program of fire engineering training for recent college graduates.

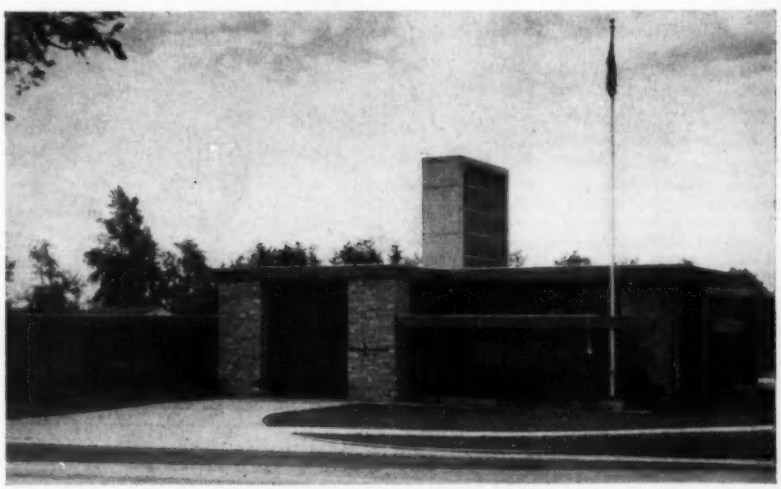
The program consists of a course of instruction and on-job training in fire protection engineering, in particular the engineering surveys of the fire fighting facilities of major cities in the U. S.

In administering the program, Professor Slack also will serve as liaison with deans of engineering schools throughout the nation, bringing to their attention the activities of the National Board in the field of fire protection engineering, and the need for the service of engineering graduates in this expanding area.

A native of Abington, Mass., Prof. Slack received his BS degree from Massachusetts Institute of Technology in electrical engineering and his master's degree in physics from New York University. He has taught at Brooklyn Polytechnic Institute since 1926.

For 15 years prior to joining the faculty of Brooklyn Polytechnic Institute, from which he is presently on leave. Professor Slack worked as an electrical engineer, and later as chief inspector, for Underwriters' Laboratories, Inc., in New York.

The new training program will attract recent college graduates because the work is particularly rewarding and interesting. Engineering students who are interested in this field of activity are invited to write for further information to the National Board's chief engineer, John A. Neale, at 85 John Street, New York 38, N. Y.



Prize-winning fire station in Los Angeles

News of the Manufacturers

Tromanhauser President of Buffalo Corp.

W. E. Tromanhauser was elected president and made a member of the Board of Directors of the Buffalo Fire Appliance Corporation. Announcement was made by William McKinley Wetzel, Chairman of the board, that the action was taken at a board meeting held in New York, December 28, 1953.

W. E. Tromanhauser

Mr. Tomanhauser joined the company in 1940 as a District Manager when the company was located in Buffalo, New York. In January, 1949, he was appointed General Sales Manager and moved to Dayton where the main office and factory were then located. In July, 1950, Mr. Tromanhauser was elected Vice President and General Sales Manager of the Buffalo Fire Appliance Corporation. He served in that capacity until his recent election as president.

The Buffalo Fire Appliance Corporation manufactures a complete line of portable fire extinguishers, and has sales outlets in major cities in the United States, Canada and in many South American countries.

Versatile Fire-Ambulance-Patrol Auto

A new, versatile mobile unit that combines features of ambulance, fire patrol, and first aid fire fighter has been introduced by the Christopher Company, 66-70 Beaver Street, New York 4, N. Y.

The ingenious combination is known as "FAPA," the initials standing for "Fire-Ambulance-Patrol-Autos." The unit is designed to meet the need for a small, light, low cost maneuverable piece of apparatus that can handle first aid and emergency calls and perform fire extinguishing duty.

As an ambulance, the body has two bed-seat combinations with room for three lying down and two sitting patients or eight sitting down plus driver and attendant. It has large, sturdy rear step to accommodate four standing men, with concealed booster hose and reel in recess. Streamlined teardrop style roof provides headroom. Windows are full body length, sliding; interior has two dome lights. Sides and roof are insulated with fibreglass (optional) and driver compartment may be cut off by patented accordion-type door. Provision is made for radio.

As a fire fighting unit, it has 200 G.P.M. Hale power take-off pump; a limited supply of 1½-in. standard hose; two 100-gal. booster tanks under bedseats; 250 ft. of ¾-in. high-pressure hose; 2 eight-foot lengths of 2½-in. hard suction hose, carried under running boards; 20-gal. stainless steel foam tank; discharge outlets for two 1½-in. lines, with 2½-in. suction intake and all necessary gauges, and fittings.

The unit is custom built on G.M.C. or Chevrolet truck chassis.

Complete specifications and illustrations will be sent upon application to the above company.

National Foam Issues New Booklet on Foam

National Foam System, Inc., West Chester, Pa., pioneers of mechanical fire-fighting foam, have issued a booklet "Foam Fire Protection" which tells in its 16-pages, the basic information relating to mechanical and chemical foam and their devices.

In terse, simple phraseology the booklet asks (and answers) such questions as: What kinds of fire are there? What is fire-fighting foam? How does foam put out fire? What is mechanical and chemical foam? What is Aer-O-Foam? What is a foam chamber and what is a chemical foam house?

This helpful, informative literature should be in the reference file of every fire department. It may be had on request by writing the above company.

Portable Lamp Features Flashing Red Beacon

A new combination portable electric hand lamp and flashing red beacon has been added to the Fairbanks-Morse line of hand lamps, electric flares, and automatic emergency lights.

New Fairbanks-Morse hand lamp

The new Beacon Lamp, available in both sealed beam (No. 10785) and standard bulb type (No. 10784) models, features the Fairbanks-Morse exclusive two-position flashing beacon. When the beacon arm is folded down, it fits snugly over the handle. In this position, the flashing bulb covered with a red Fresnel lens of molded plastic serves as a taillight. When carried in this manner, the Beacon Lamp not only lights the way ahead but also flashes a warning to vehicles approaching from the rear. The unit may be procured from Fairbanks-Morse & Co., 600 So. Michigan Ave., Chicago, Ill.

Federal Changes Name

Federal Enterprises, Inc., of Chicago, well-known siren manufacturer, has changed its name to Federal Sign and Signal Corporation.

The change was approved at the annual stockholders meeting February 27.

According to W. W. Scott, president, the new name is more generally descriptive of the present principal products of the company.

D. A. Knapp Sales Engr. of Rockwood

William J. Carroll, president of Rockwood Sprinkler Company, recently announced the appointment of Donald A. Knapp to sales engineer for the Portable Fire Fighting Equipment Division.

D. A. Knapp

Mr. Knapp holds a Bachelor of Science degree in Electrical Engineering.. He attended the University of California and Stanford University where he pursued graduate work in communications and law.

As a member of the Board of Fire Underwriters of the Pacific in San Francisco, Calif., Mr. Knapp served as policy examiner and assistant chief engineer in the Sprinklered Risk Department.

In 1941 he was employed in the Insurance Department of Bethlehem Steel Co., Pennsylvania, where he undertook such duties as determining specifications of equipment purchased for fire protection, the developing of fire department training programs and the testing of new or specialized types of fire protection equipment.

Mr. Knapp's territory will cover New York and northern New Jersey.

New Light-Weight Mobile Radio Units

Two new compact, high-band mobile radio transmitter and receiver units have been announced by the Federal Telephone and Radio Company, Clifton, N. J., division of International Telephone and Telegraph Corporation, as featured units in its new line of mobile radio communication equipment.

The two units are the FT-156 front-mount "Transit-Call" and the FT-158 standard cabinet type. Both operate in the 148-174 megacycle frequency range.

The FT-156 measures 5¾ inches high, 8⅝ inches wide and 18 inches long. It is of simple drawer-type, easily pulled

(*Continued on page* 261)

Let's talk DOLLARS and SENSE about

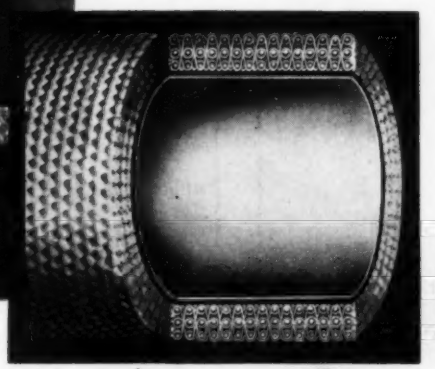
EUREKA

Multiple-Woven

THE BEST is usually *least expensive in the long run.* And that goes double for fire hose! Here's why:

Your dollar spent for the lowest-priced approved hose can be divided over an average service life of about 4 years . . . or 25 cents per year. Suppose, however, you invest *not one* dollar but *two dollars* in the same footage of premium quality Eureka MULTIPLE-WOVEN Hose. According to the experience of users, your two-dollar investment in this uniquely constructed hose may well be spread over a useful service life of 16, 20 or even 24 years . . . or 8 to 12 cents per year!

In the long run, then, Eureka MULTIPLE-WOVEN may easily cut your hose expenditures *by more than half!* At the same time you'll have a hose you know won't let you down . . . won't warp or writhe excessively . . . and *will* deliver maximum pressure to the nozzle! *There's no other hose like it.* Specify it on your next order! You'll have the added satisfaction of dealing with a *specialist* in fire hose!



All plies of Eureka Multiple-Woven Hose are woven *and interwoven* simultaneously, leaving no space between plies for collection of water, dirt or mildew.

"For greater protection to life and property"

EUREKA FIRE HOSE

Since 1875, Specialists in Manufacturing Circular-Woven Cotton Rubber-Lined Fire Hose

195 Hudson Street • **New York, 13, New York** • *Division of United States Rubber Company*

FALSE ALARMS

"I'll have to hang up now Mamie—someone's waiting for me!"

Nothing reminds a woman of all that needs to be done around the house like a husband who is taking it easy.

Two trucks met on a country road just wide enough for one. The first driver, a scrawny little man, leaned out of his cab:

"Turn out, you!" he shouted. "If ya don't I'll do to you what I did to the last guy who wouldn't turn out for me!"

The second driver was muscular and weighed 200 pounds but did not care to have trouble. He pulled out. As the other driver's truck rumbled by, he yelled: "What'd you do to that other guy?"

"Turned out for him!"

Truck Opr.: "I know a place where the women don't wear hardly anything except maybe a string of pearls once in a while."

City Driver: "My gosh! Where?"

Truck Opr.: "Around their necks."

The father of twins was in a terrible predicament. He couldn't tell the babies apart. He thought of various ways to identify them; he couldn't cut their hair differently, because they didn't have enough hair to use. Their eyes were the same shade; their chubby noses the same; he was just out of luck. Finally, he had an inspiration and had their names tattoed on their backs, "Mary" and "Jim."

Poise is that quality which enables you to buy a pair of new shoes without seeming to be aware of the hole in your sock.

Rotating Supply

"What are you giving your husband for Christmas?" asked one woman of another.

"A hundred cigars," replied the other.

"What did you pay for them?" queried the first.

"Oh, nothing at all," responded the second. "I just take one from his box every day for several months. He never notices it and compliments me for getting his favorite brand."

Atom.

"This is the age
. . . of the half-read page.
The quick hash and the mad dash,
The bright night with nerves tight.
The plane hop and the brief stop,
The lamp tan in a short span,
The big shot in a good spot,
The brain strain and the heart pain,
And the cat naps . . .
Till the spring snaps
. . . and the fun's done!"

Inducement

Arriving home earlier than usual, he found his wife in the arms of his best friend. "I love your wife and she loves me," said the friend. "I'll play you a game of cards for her. If I win, you divorce her, and if you win, I promise never to see her again. How about gin rummy?"

"All right," agreed the husband, "but how about a penny a point to make the game interesting?"

Captain: "Oh, yes, I've heard of him. Isn't he that inspector who battled his way to the top?"

Lieutenant: "No, he's the inspector who bottled his way to the bottom."

"Folks, this will be a short trip—everybody out of the building!"

THANKS . . . for bearing with us."

ELKHART BRASS MFG. CO, INC.
ELKHART, INDIANA

EDWARD H. HANSEN
PRESIDENT

Dear Friend:

YOU WERE PATIENT!

And we are sincere when we say: THANKS for bearing with us. It is gratifying to have customer friends, like you, who waited longer than seemed reasonable for shipment of your Select-O-Stream Mystery Nozzles.

Here is what happened: Initially we thought that the Select-O-Stream would more or less replace the regular Mystery Nozzle line. On the contrary . . . when Select-O-Stream was introduced a sudden surge of interest and demand developed not only for Select-O-Stream but the regular Mystery Nozzle line as well. And, before we could obtain the necessary additional machines, tools, fixtures, castings, component parts and subcontracting to meet this unexpected trend, we found that days had become weeks and even months and deliveries were delayed.

As a result we were "covered" for too long a period. No more! Today, production has caught up and we can make immediate shipment from stock on Select-O-Stream Nozzles as well as the standard Mystery Nozzle line in all standard threads.

Again, to you who ordered and waited, our sincere thanks.

Very truly yours,

ELKHART BRASS MFG. CO., INC.

E. H. Hansen

Edward H. Hansen
President

EHH:vjw

Select-O-Stream
Mystery Nozzle

Write for literature

ELKHART BRASS MFG. CO., Inc.

ELKHART **INDIANA**

Protection of Wood Products Plant

(*Continued from page 218*)

their assignments seriously and thoughtfully.

Questioned about willingness of men to work on the fire detail, Wise explained, "These men realize that even a small fire could mean loss of a job. They also know that the company has made a tremendous effort to protect the plant and the men. They want to do their part and have been most willing and eager. We are proud of them." The company also does its part by paying the men for all extra drill time, etc.

Spokane is also proud of the White Pine Sash Company. Fire Chief Blamey expressed it well when he said, "It is regrettable that more companies of their type throughout the country can not be made to realize the full importance of adequate fire protection. Any such mill must have more than normal facilities for preventing and fighting fire. We believe this company has one of the most modern and complete fire protection programs of any industry of the northwest and it is most deserving of recognition.

Just in case the hard headed businessman doesn't think such a program pays off dollar-wise, here is the report of White Pine Sash's General Superintendent: "We pay about 20 per cent less insurance premiums than we did three years ago. The rate change has been gradual, but so has our fire protection program. Everything we have undertaken, by the way, has been through recommendation of the fire underwriters or with their approval. Within recent months the Washington Rating Bureau has reduced building and equipment rate from 1.267 to 1.169 and our stock (stored lumber) rate from 1.357 to 1.225. During that period, there has been no comparable general change of the rate within the lumber industry locally or in the city of Spokane as a whole."

BAR-WAY COUPLINGS...

For booster and high pressure fog lines

There are four good reasons why the fire fighters specify BAR-WAY couplings. Four reasons why BAR-WAY couplings are growing in favour with firemen, hydraulic engineers and others who insist on the best.

- **SAFETY**—The coupling becomes the *strongest part of the hose line.* Tested to 3000 pounds pressure and 500 pounds pull.
- **FULL FLOW**—No suppression of flow in coupling. No shrinkage of hose at coupling.
- **FLEXIBILITY**—Reels smoother. Easily replaced. Nothing to catch on corners or underbrush.
- **BETTER MADE**—Accurately machined, always the same, interchangeable. WILL NOT FAIL.

Send for our free pamphlet. Gives detailed specifications for all types of pressure hose, ID and OD.

BAR-WAY MFG. CO., STAMFORD, CONN.

WEST COAST REPRESENTATIVE | W. B. BIGDON, 383 Bronson Street, San Francisco 7, Calif.

Ventilation

(*Continued from page 223*)

(the latter for fastening doors open, etc.).

Earlier we listed the conditions which should dictate top level ventilating operations. Here is a quick review of some of the major considerations:

Factors of Top Level Ventilation

1. Where top, or roof, ventilation is indicated get someone, preferably a team, to the roof immediately.

2. Decision to cut or actually open the roof should be made only after a thorough appraisal of the roof and top floor conditions (extent and nature of fire, evident gas pressures, smoke, wind direction, weather conditions, exposures, etc.) Manifestly, if fire has apparently weakened the roof structure in any way, cutting should be avoided. Cutting of roof should also be delayed if removal of skylights and ventilators, and opening of bulkhead and other coverings of vertical shafts will, or may be expected to, relieve the structure of smoke and gases sufficiently for attack and search to be pushed.

3. Note surrounding conditions, as to whether any opening that is planned will jeopardize exposed structures through side windows or other exposures. Where such hazard exists, the officer in charge, or his nearest available subordinate, should be notified of conditions.

4. In cases where the building involved has a wide frontage, an opening might be made in the roof on that side of the building farthest away from the side exposure. Direction and strength of the wind must be considered in making any opening. If windows of exposed buildings are open, men should be sent to close them.

5. Note existence of water tanks or any other structures or weights on the roof, also location of parapet walls, chimneys, vent pipes, etc. Beware of television aerials and guy wires, also clothes lines (especially in night operations), and any other roof obstructions.

6. Check the roof construction (if not previously ascertained). Note its covering, combustibility and impenetrability to hand cutting tools. Check for hot spots, indicating places to cut, conditions permitting. Also note cornice, and possible connections with adjoining structures (it may be necessary to open such channels).

7. For safety's sake, keep men not actually engaged in cutting close to parapets. Overloaded roofs, weakened by fire and cutting parties, have collapsed with fatal results. Also, keep men from unprotected roof edges (especially in inclement weather and at night when smoke conditions make visibility poor). Roof rope or other line may be used as barrier to warn firemen they are approaching roof edges. Also, men should be warned of location of cut holes and openings; where these can be guarded by rope or planks they

should be so protected. Another danger are nails in removed roof sheathing which project upward out of cut pieces.

8. In opening elevator and dumbwaiter shafts, it is well to determine where the car is located and whether or not it is so placed that it forms a cut-off for the shaft.

9. When opening a roof also, it is well to exercise the same precautions, as to board, lath and plaster ceiling under the roof structure. Plaster hook or pike pole should be driven down through opening to break out any ceiling or other obstruction in false attic or cockloft.

10. Size of opening is as important as location. It should be determined by consideration of extent and location of heat and atmospheres, smoke and gases, and other factors already enumerated. Don't place too great dependence on a little scuttle as a means of venting a structure involved with fire. Sometimes only a single scuttle and possibly single bulkhead covering a stairway, may be inadequate for top level ventilation, and roof cutting should be undertaken.

The size and number of roof openings to be cut should depend upon conditions that must be analyzed by the officer in charge. A single large hole is better than a number of small ones, if it is rightly located. In some operations, construction permitting, it may be possible to take up an entire longitudinal section of roof to vent a wide area.

11. Where skylights and other coverings can be removed intact, by loosening their attachments or supports, this is preferable to breaking them in.

12. Top floor windows can often be broken by use of long pike poles or plaster hooks, operated from over the roof edge. Most companies no longer carry the old ball and chain "window-breaker," but effective use can be made of a short line and any weighted object which can be swung out and over the roof edge to break in windows out of reach of hooks.

13. In cutting roof, work with the wind at the back to afford protection from the emitting smoke, and to gain better vision.

14. Make sure of a secondary means of escape in case the necessity should arise (a crew of laddermen was trapped on a roof when their extension ladder by which they had reached the roof was suddenly removed without their knowledge and they escaped only because they had brought with them the essential roof rope).

15. Although in extreme emergencies, coverings over vertical shafts may be opened without waiting for a covering, charged hose line, no time should be lost in getting a line or lines to the roof to support venting operations and cover exposures. If fire has reached into vertical arteries, it may be expected to have involved under-roof voids and structural members. Indiscriminate opening of the roof may spread the fire and increase its intensity. A charged hose line under these conditions is an essential.

16. The tips of ladders may be used to break in top floor windows by dropping the ladder against them. Care should be taken to guard against falling glass in such operations.

17. Do not throw cuttings or debris off roof unless necessary, under which conditions warn all those on the ground or on ladders working below.

We are pleased to Announce

APPROVAL BY THE UNDERWRITER'S LABORATORIES...

This recognition has been awarded to this unique, effective and economical FYR-LARM unit. When seconds count . . . FYR-LARM protects personnel, homes and buildings from ever-threatening danger of fire.

Write for complete information describing the home and industrial FYR-LARM units.

Fully Automatic • No Wiring • No Batteries

Home Model—$12.50 per unit
Gross Wt.—3 lbs.

Industrial Model—$15.95 per unit
Gross Wt.—4 lbs.

G. H. WOOD & CO., LTD. • TORONTO, CANADA
Exclusive Canadian Distributors

2900

FYR-LARM

Phi Beta Kappa Fire

(*Continued from page 216*)

Armed Forces Experimental Training Activity, Cheatham Annex Naval Supply Depot, Yorktown Naval Mine Depot and Fort Eustis.

He realized his only course was to attempt to save the north wing of the building. Accordingly, he moved Engine One to the Jamestown Road hydrant and laid out two 2½" lines with fog nozzles. With these two lines on the east and the ladder pipe on the west, Chief Jayne began a "pincers" movement at the recesses between the wings. The two 1½" lines from Engine Two were advanced through the north wing towards the auditorium exits, one on the second floor through a window, the other through a door on the ground floor.

Another 2½" line from Engine Two was stretched to assist the ladder pipe on the west side, and two more 2½" lines from Engine One were directed into openings on the southwall of the auditorium.

To conform to water supplies available, mutual aid trucks were dispersed. The first to arrive, Camp Peary's 750-GPM pumper, stretched a supply line from a campus hydrant near Sir Christopher Wren building and placed its 2½" line inside the north wing on the ground floor. Next arrival, a 600-gallon booster tank engine from James City County, was placed to cover exposures northeast of the involved building. Then the Cheatham Annex pumper was placed on Richmond Road and also stretched its 2½" line into the first floor of the north wing. The Naval Mine Depot pumper stretched from a hydrant near the college library and directed a stream at the east auditorium entrance.

At first, though, the infighting inside the north wing was carried on with the two 1½" lines. On both floors the fire was driven back to the auditorium exits.

Then the cellar and attic "leaks" in the north auditorium wall became evident. Smoke began issuing from the eaves of the north wing and the first floor began to get hot. To deal with the undermining attack of the blaze, Camp Peary's Chief Alfred R. Liptow—also a Williamsburg assistant chief—cut through the first floor and placed his line, equipped with an all-purpose nozzle, in the cellar. He successfully drove the fire back to the north auditorium wall.

To meet the attic threat, where the loft was now heavily involved, Chief Jayne's men on the second floor retreated from the second floor auditorium exit and pushed through an exhaust-fan opening in the Phi Beta Kappa offices to play their 30-degree fog at the flame. In a few moments, the fire in the attic was knocked out, though continued application of water and an attack through the roof by hook and ladder men was necessary to extinguish rekindles caused by intense heat from the gutted auditorium.

At about 9:50 P.M., about an hour and three-quarters after the alarm, Chief Jayne felt the fire was under control. Shortly thereafter he began releasing mutual aid equiment. At 3 A.M., he returned Engine One to the fire station and released the Fort Eustis pumper which had been covering the town. Engine Two, supplying two 2½" and two 1½" lines, pumped almost continually until 7:30 A.M. on the 30th, as Chief Jayne continued to water down the ruined auditorium. A hand line direct from the hydrant was used until 4 P.M. to finish the job.

Investigations which began on the 30th revealed that, in the north wing Phi Beta Kappa files, not a single piece of paper had been damaged by either fire or water. Fire damage in that wing was confined to areas near the four auditorium exits, the basement and the attic, which was most badly affected. Water damage was extremely light.

Of the auditorium, nothing remained but tottering walls and rubble. Insurance adjustors allowed full coverage—$125,000—on the structure and were expected to allow about $25,000 on its contents.

Wiliam and Mary President Alvin D. Chandler, Phi Beta Kappa Executive Secretary Carl Billman, Insurance Adjustor Edward Robedee, Insurance engineer H. R. Durall and many others were unanimous: they marvelled that firemen were able to save anything at all in face of the conditions which existed in the building and the amount of fire they encountered in the auditorium.

N. Y. Has Dangerous Fabrics Bill

On March 3rd last the New York State Assembly passed a measure making it illegal to sell or wear apparel made of fabrics so highly flammable as to be dangerous. The Bill has yet to pass the upper House and be signed by Governor Dewey.

"DON'T scrap that Truck !!"

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REMODELING SERVICE NOW SUPPLEMENTS OUR COMPLETE LINE OF FIRE APPARATUS EQUIPMENT

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Manufacturers and Distributors of Truck Equipment

South River Fires

(*Continued from page 230*)

dent of the Templar Company, has estimated losses to be approximately $250,000.

Shortly after 3:45 P.M., on January 5th, 1954, a fire believed caused by a short circuit, ignited a Christmas tree in an apartment on the second floor of a large apartment house at 27-31 Jackson Street, South River. The fire department under the direction of Chief Arthur Reichenbach responded and, upon arrival, found the fire rapidly spreading throughout the entire second floor containing six apartments. Mutual aid was again requested and answered by the same departments that joined forces to fight the Templar Oil company fire.

Hose lines were quickly laid from nearby hydrants and the fire attacked from all sides. As the flames roared through the apartments and out the roof, firemen concentrated their efforts on preventing the flames from extending beyond the building of origin. Seriously exposed was the Bell Telephone Company's exchange and business office in an adjacent building. Clouds of dense, gray smoke hindered the firefighters and blanketed the entire business section of the town. One fireman was overcome by smoke and one received a cut hand.

Major damage was centered in the apartments although there was heavy water and smoke damage to offices and stores on the ground floor. By 7:25 P.M. the recall had been sounded and all outside fire companies had returned to their quarters. Loss has been estimated at $40,000.

WILLIAM C. PECK

Fire Siren Club of Evansville Installs

Aldrich Kruchek was installed as Chief of the Fire Siren Club of Evansville, Ind., January 5th, at a meeting held at Sterling Rathskeller.

Other officers of the 35-member volunteer group, which answers all multiple alarm fires, operating under the Indiana Firemen's Association, are: George Whitbeck, Deputy Chief and Jerry Kissel, Secretary-Treasurer. The organization is available also to respond to all second and great alarm fires or other emergencies throughout the Tri-State.

JOHN A. KOCH

Puerto Rico Gets Another Insurance Rate Reduction

For the seventh time in ten years, the Commonwealth of Puerto Rico has been granted a major reduction in fire insurance rates. The reduction applies to all communities on the island, and ranges from 15 per cent for warehouses to 25 per cent for mercantile risks.

These reductions have been brought about principally by fire protection improvements, which were carried out under the direction of a hard-driving, progressive Fire Chief, Raul Gandara.

In 1943, when Chief Gandara took over the administration of the fire service of the island, only three of the 77 municipalities on the island had fire stations. Today, nearly every city and town in Puerto Rico has one or more well-equipped stations, and by the end of the year none will be without at least one.

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Fyr-Fyter offers you the *industry's most complete line* of fire protection equipment and accessory fire-fighting products . . . you can select *all* your needs from a *single source!* Consider the advantages this gives you. You eliminate the confusion of deciding where to buy. You talk to one salesman who offers you practically a limitless list of Underwriters' Approved portable fire extinguishers, and accessory items including nozzles, valves, hose, hose fittings, pumps, firemen's tools, clothing, ladders, warning and signal devices, first aid kits, masks, breathing apparatus, and other safety equipment. You place one order, check in one shipment, and pay one bill!

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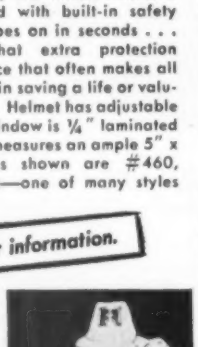
PROTECTS your face

Heat-reflecting, aluminized asbestos fireman's hood with built-in safety helmet . . . goes on in seconds . . . gives you that extra protection around the face that often makes all the difference in saving a life or valuable property. Helmet has adjustable felt lining. Window is ¼" laminated safety glass, measures an ample 5" x 6¾". Gloves shown are #460, 14", asbestos—one of many styles we furnish.

Write for further information.

FIRE RESCUE SUIT

Field Tested up to 1800° F.



When searing heat calls for a man in a fire suit *fast*, he's got to get that suit on in a hurry—without fumbling. That's the ISSCO Fire Rescue Suit. A man can be in it and ready for action in less than a minute—*without help*. He's completely protected, in a roomy, pliable garment weighing only 28 lbs. He can see well. He can work rapidly, effectively—saving lives or knocking out the heart of a blaze quickly. Not just another "asbestos suit," but a scientifically compounded garment utilizing fibre glass, aluminum foil, vinyl-treated glass cloth and asbestos. Rigidly field tested up to 1800° F., with and without respiratory equipment. Complete details on request.

ISSCO makes a complete line of protective clothing — suits, gloves, mitts, coats, chaps, aprons, blankets, etc.

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Protective clothing for every situation!

The ROUND TABLE

For Practical Discussion of Current Fire Department and Fire Management Problems

SHIFTING TRENDS IN HOUSE WATCH?

THE discussion in this Round Table is a continuation of that which appeared in the January and February issues on practices of fire departments in maintaining house watches.

The generous response from our readers made it necessary to carry the discussion over to this issue.

Readers are invited to send in their comments on this subject, or on next month's subject which is described in a box on a subsequent page. Address replies to Round Table Editor, FIRE ENGINEERING, 24 West 40th Street, New York 18, N. Y.

Discussion of the Topic

Glen J. Davis, Chief, Beloit, Wis.: We do not maintain a 24-hour watch. We maintain a telephone watch from 7 A.M. until 9 P.M. After 9 P.M. large and loud telephone bells alert the men.

Each man stands a two-hour watch until 9 P.M.

Our system works out very well and we do not feel that any time is lost by its use. When telephone rings after 9 P.M., it is almost always a run.

When the telephone rings at night, the first man to hit the floor answers it and at the same time an "in" man takes over the radio mike to alert the outlying stations should the officer in charge give such an order.

Our department is all paid. It consists of forty men and the chief, a headquarters station housing three companies and two outlying stations each housing one company.

V. L. Crusinberry, Chief, Sioux Falls, S. D.: We do not maintain a 24-hour watch with the exception of the switchboard operator at our central fire station.

One man sleeps near the switchboard operator at night.

Outyling stations are alerted by bells and lights set off by relays maintained by the Northwestern Bell Telephone Co. This is all controlled by alarm operator.

We have experienced very limited difficulty. We could improve communication if a device were invented to turn on the short wave radio on truck units automatically.

We are a paid department.

J. P. Newark, Chief, Grand Forks, N. D.: House watch is maintained from 8 A.M. until midnight.

Watch is rotated in two-hour shifts among men on duty.

We have only two stations at present. We have a special telephone number for reporting fires. These telephones are installed on the apparatus floor and in the dormitory at each station and operate a relay which rings a larger bell than the standard equipment. Therefore, when a call comes in, the officer in charge at each station gets the call at the same time over the one line. In case someone dials the regular telephone to either station and reports a fire, we have a direct telephone system between the two stations that does not go through the central office and can be used only for communication between stations. We use an automatic relay on the box circuits which transmits the alarm to both stations through a 10-inch gong.

We are satisfied with this method, as we believe that a man who has had a chance to get three or four hours sleep is in better condition to fight a fire than one who is tired when he starts out.

This is a fully paid department of thirty-two men.

T. G. Lennon, Chief Saskatoon, Sask.: We maintain a 24-hour watch in all stations. Each member of each shift does two hours duty watch in the alarm booths.

This system has proven very satisfactory.

We have just completed the installation of a new and up-to-date Gamewell fire alarm system with an 8-circuit board. No doubt a few changes will be made from time to time.

Our department is fully paid with a complement of three stations, 107 men on three platoons.

E. L. Smith, Chief, Salem, Ore.: We maintain a house watch at Headquarters Station only. A daytime business phone watch of 1-hour each is main-

HERE ARE THE QUESTIONS

1. **Does your department maintain a 24-hour house watch?**
2. **If so, how long does each member of the company stand watch: (a) day watch; (b) night watch?**
3. **If no night watch is maintained, how does your system work in regards to alerting companies at night?**
4. **Has the method you employ worked out satisfactorily?**
5. **Any suggestions for its improvement?**
6. **Is your fire department paid or volunteer?**

tained from 8 A.M. to 8 P.M. The company captain handles phone calls during other hours.

All emergency calls are received by our police communications office and relayed to fire stations by public address system.

All calls are by phone, as we do not have a box system at this time.

We are a paid department.

A. A. Girard, Chief, Pocatello, Ida.: At night all stations are alerted by telephone or fire alarm system.

We are a paid department.

Bernard J. Padgett, Chief, Alexandria, Va.: We do not maintain a 24-hour house watch.

We have a telephone system with relays to house bells.

This system has been fairly satisfactory, but on a very few occasions we have had relay failures.

There is not much improvement you can make on this system. However, we are making an installation to take care of the above in case of relay failure.

We have radio transmitter and receivers in all stations and we are now installing tone activators on all radios that will activate the house bells, which will alert the men on duty. We have a dispatcher on duty twenty-four hours a day.

We have ten paid men in each engine house, five on each shift. We have over 100 active volunteers in our five companies.

Edward G. Duball, Chief, Burlington, Vt.: We maintain a twenty-four hour house watch. The men serve eight-hour shifts from 7:30 A.M. to 3:30 P.M.; 3:30 P.M. to 11:30 P.M. and from 11:30 P.M. to 7:30 A.M.

This method has proven satisfactory, but I believe it would be even more efficient if there were four men instead of three

We are a paid department.

R. E. Garnett, Chief, Cheyenne, Wyo.: We maintain a twenty-four hour house watch. The day watch is of eight hours duration and the night watch, 16 hours.

This method is working out satisfactorily.

We are a paid department.

S. M. Ake, Chief, Altoona, Pa.: We do not maintain a twenty-four hour house watch.

During the night we have a telephone in the bedroom. Alarm system lights the lights and rings a large gong. We find we respond faster at night than in daytime.

We are a paid department.

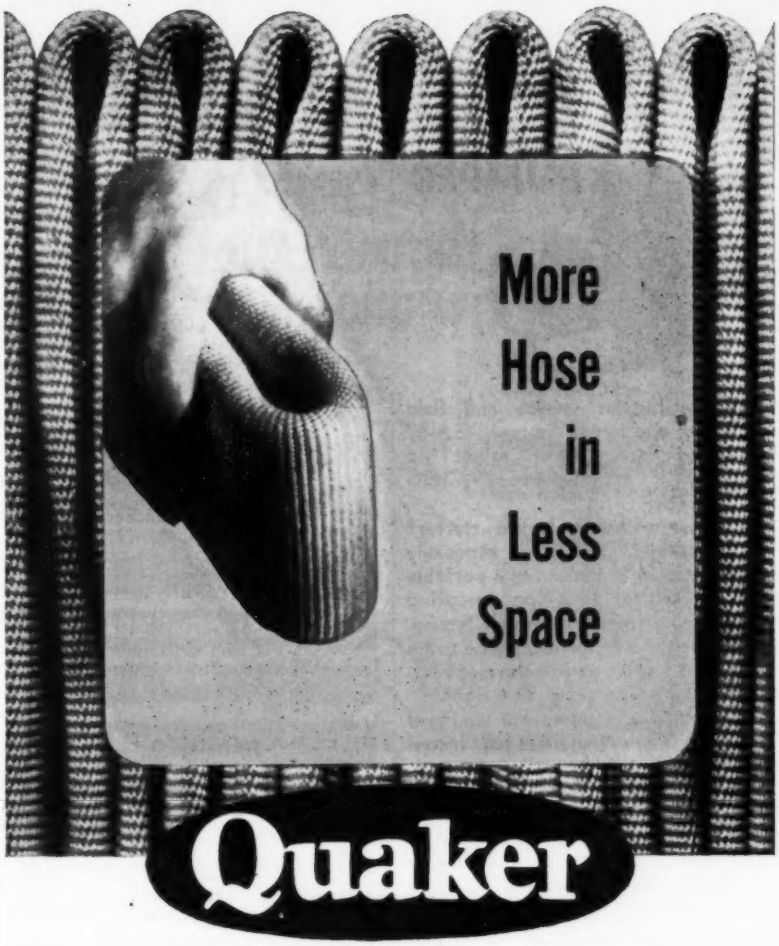
A. McC. Marsh, Chief, Columbia, S. C.: Our department does not maintain a house watch.

The companies are alerted by a specified signal on an electric buzzer from the fire alarm operator's desk. It is sounded at all stations and in all sleeping quarters when an alarm is received. This method works very satisfactorily.

We are a paid department with 124 uniformed members and two civilians.

Ira D. Leech, Chief, Decatur, Ill.: We maintain a 24-hour house watch. The men on duty take turns during the day and the same man takes it every night from 9 P.M. to 7 A.M.

We have two bells to the fire bell. In the event the man should sleep through it downstairs, the other bell gets the men out upstairs. It has a



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The New GA-8 PACIFIC PUMPER

Now in regular service and field tested and approved, the new "GA-8" is showing itself to be another top performer in the famous PACIFIC PUMPER line.

With or without electric starter* the lightweight "GA-8" is especially adapted to tanker use . . . as a portable unit the special sled-type mounting means easy handling in rough terrain. Light enough to be readily carried, the air-cooled, 4-cycle engine develops top volume and pressure for its weight.

The engine and pump are standard Pacific Units and have been fully tested and approved.

**Optional equipment.*

DIMENSIONS

Length	28¼ inches
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NET WEIGHT

GA-8 (without starter)	115 lbs.
GA-8-S (with starter)	140 lbs.

PERFORMANCE

Pressure	G.P.M.
50	26
100	24
150	22
200	21
250	20
300	16

Normal operation is 20 G.P.M. at 250 lb. pressure.

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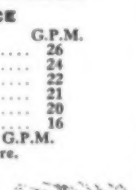

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FIRE EQUIPMENT DIVISION
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delayed ring. This system works very well.

We are a paid department.

Fred W. Lange, Chief, East Cleveland, Ohio: We deem it absolutely necessary to maintain a 24-hour watch. Each watch is two hours duration both day and night.

We are a paid department with thirty-seven men.

T. E. Yarnton, Chief, Regina, Sask.: We maintain a 24-hour house watch in central station only. The shifts are of two hours duration during the day and eight hours at night.

The outside stations are alerted from our central fire alarm station by bell and public address system. This method has worked out satisfactorily.

We are contemplating building a new fire alarm building this coming year. When it is completed there will be a watch on duty at all stations as we will have a radio-phone alarm system.

We are a paid department on eight-hour shifts.

G. N. Guevin, Chief, Manchester, N. H.: We do not maintain a twenty-four hour house watch. During night hours, our men are alerted by radio tone signal and by the fire alarm signal.

This method has proven satisfactory.

We are a paid department.

L. L. Williams, Chief, Richmond, Ind.: We do not maintain a twenty-four hour house watch.

After 9 P.M. one man is assigned to a night watch. He is permitted to sleep while on this watch.

We alert our telephone calls by striking two fast licks on our Gamewell to alert other companies. In this way, all companies are alerted before call is completed.

We are a paid department.

Gordon Huff, Chief, Brantford, Ont.: We maintain a twenty-four hour house watch from 8 A.M. to 6 P.M.; 6 P.M. to 1 A.M., and from 1 A.M. to 8 A.M. Control men are relieved for short periods, lunch, etc.

This method has worked out satisfactorily.

We are a paid department.

Zenus Mathis, Chief, Atlantic City, N. J.: We maintain a twenty-four hour house watch.

During the day each member stands watch for two hours. During the night, members stand watch from 6 to 9 P.M.; 9 P.M. to 12 M.; 12 M to 2 A.M.; 2 A.M. to 4 A.M and from 4 A.M. until 8 A.M.

This system is a satisfactory one.

We are a paid department.

Francis J. Dagon, Chief, East Hartford, Conn.: We maintain a twenty-four hour house watch.

During the day each member stands watch for two hours, while during the night the man on watch is on for fourteen hours.

We are part paid, with callmen and volunteers.

O. E. Boegess, Chief, Charleston, W. Va.: We do not maintain a twenty-four hour house watch.

We depend on an alarm by our operators from alarm headquarters who are on watch day and night.

We are a paid department.

William Cobb, Chief, Westmount, Que.: We maintain a twenty-four hour house watch with each member serving three hours day and night.

We are a paid department.

Clarence H. Green, Chief, Concord, N. H.: We maintain a twenty-four hour house watch. Each member of the company stands watch for four hours both day and night.

This method is a satisfactory one.

We are a paid department with 45 permanent men and 78 call men.

L. Dickson, Chief, Provo, Utah: We do not maintain a twenty-four hour house watch.

The calls come by phone usually. We have a buzzer system on all doors for those reporting by person.

We are a paid department.

W. H. Ferguson, Chief, Edmunton, Alta.: We maintain a twenty-four hour house watch, each member of the company serving for eight hours. This system is a satisfactory one.

We are a paid department.

Richard J. Tierney, Chief, Arlington, Mass.: We maintain a twenty-four hour house watch with company members serving two hours each during the day and 4 hours after midnight.

We are a paid department.

Howard Munson, Chief, Fond du Lac, Wis.: We maintain a twenty-four hour house watch. Each member stands watch for one hour during the day and 8 hours at night.

We are a paid department.

Frank Everett, Chief, Rochester, Minn.: We maintain a twenty-four hour house watch. The man on watch has a roll-away bed at watch desk and can go to bed after 11 P.M.

After we get some sub-stations we will have two full-time dispatchers who will take over.

We are a fully paid department.

Battalion Chief, Roy Sanders, Hot Springs, Ark.: We have a man on watch for twenty-four hours. We have a cot in the alarm room where he may sleep. This has worked out very well.

We are a paid department.

F. W. Rafter, Deputy Chief, Outremont, Que.: We maintain a twenty-four hour house watch. The day watch is taken by the officers from 8 A.M. until 1 P.M. Then it is taken over by a man from 1 P.M. to 6 P.M. At 6 P.M. the officers take over watch until 7 P.M. At 7 P.M., the watch is again taken

HERE ARE THE QUESTIONS FOR THE NEXT ISSUE

1. Have you been able to limit the use of fire hydrants in your city to the fire department only?
2. If not, what other city departments commonly use the fire hydrants?
3. If other than municipal departments use the fire hydrants, who are they?
4. Who purchases the fire hydrants: (a) the water department, (b) the fire department?
5. Who maintains fire hydrants?
6. If repairs are required, who makes them?
7. Who determines where fire hydrants are to be placed?
8. Who inspects fire hydrants?

over by the men, changing watch every three hours until 7 A.M. From 7 A.M. until 8 A.M. it is again taken over by the officers.

We are a paid department.

C. A. Crosier, Chief, Battle Creek, Mich.: We do not maintain a twenty-four hour house watch.

The men are alerted during the night by fire alarm telegraph and telephone from our fire alarm office. This method has proven satisfactory.

Equipment has been purchased and will be installed to provide radio receivers in each fire station on our fire department frequency.

We are a full paid department.

H. S. Knight, Chief, St. John, N. B.: We do not maintain a twenty-four hour house watch.

A captain stands watch from 8 A.M. until 10 A.M. Firemen stand two-hour watches from 10 A.M. until 6 P.M. when a lieutenant takes over until 8 P.M. Firemen take over for two hour periods from 8 P.M. until 12 Midnight. Another lieutenant takes over from 12 Midnight until 7 A.M.

There is a telephone near the lieutenant's bed with a push button to sound alarm. Street push buttons are installed on the outside of station door for the benefit of the public, but are seldom used.

This method has been approved by the Board of Fire Underwriters. The men, too, like this arrangement, which makes for better discipline.

We are a paid department with 120 men. We have a volunteer salvage corps of 50 men.

S. D. O'Conor, Chief, Beaumont, Tex.: A twenty-four hour house watch is maintained at headquarters only. During the day it is split up into two-hour periods, while at night the watch is of 12 hours duration.

During the night the men are alerted by public address system.

We are a paid department.

Frank Briers, Chief, Victoria, B. C.: We maintain a twenty-four hour house watch. The day watch is split into two periods: from 8 A.M. to Noon and from Noon to 6 P.M. The night watch is also split into two periods: from 6 P.M. until 1 A.M. and from 1 A.M. until 8 A.M.

We are a paid department.

C. E. Van Ausdale, Chief, Oberlin, Ohio: In this city of 6,000 persons plus 2,000 students enrolled in Oberlin College, we operate with three paid men working one 24-hour shift each third day, and 24 men on call in case of fire.

Three years ago when the local telephone exchange made the change from manual operation to dial, we were forced to adopt another means of alerting the firemen, so after a lot of thought purchased a General Electric radio system for use by both police and fire departments. Main transmitter is located in the City building (housing both police and fire) and each of the men has a receiver in his home which operates only in time of an actual call. Our two Seagrave trucks are radio-equipped as well as the police cruiser and two light plant trucks. The fireman on duty mans the radio during 7 A. M. to 9 P. M. period when a policeman-operator covers until 7 A. M. the next morning. The fireman is then free to sleep (after 9 P. M.) but not leave

SIREN FIREMAN'S BOOT

20 KEY FEATURES--YOUR GUARANTEE OF FOOT COMFORT, SAFETY AND LONG WEAR!

TOP NOTCH SIREN "BEACON FALLS" CORD

3" HIGHER ST. KING LENGTH FOR QUICK ADJUSTMENT AND MORE PROTECTION

OUTSIDE, EXTRA RUBBER REINFORCEMENT ABOVE KNEE

ENTIRE SKIRT NET LINED FOR AMPLE STRETCH

STURDY INSIDE PULL-ON LOOPS AT KNEE

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REINFORCED KNEE PATCH OF CREPE RUBBER

VULCANIZED BY AMMONIA CURE—PATENTED EXCLUSIVE FEATURE

SIX PLIES OF FABRIC AND RUBBER THROUGHOUT LEG

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FABRIC AND RUBBER IS "SHINGLED" TO DISTRIBUTE STRAIN

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MADE OVER SPECIAL LAST, FULLER THROUGH THE ANKLE AND INSTEP

NINE PLIES OF FABRIC AND RUBBER AT THE VAMP

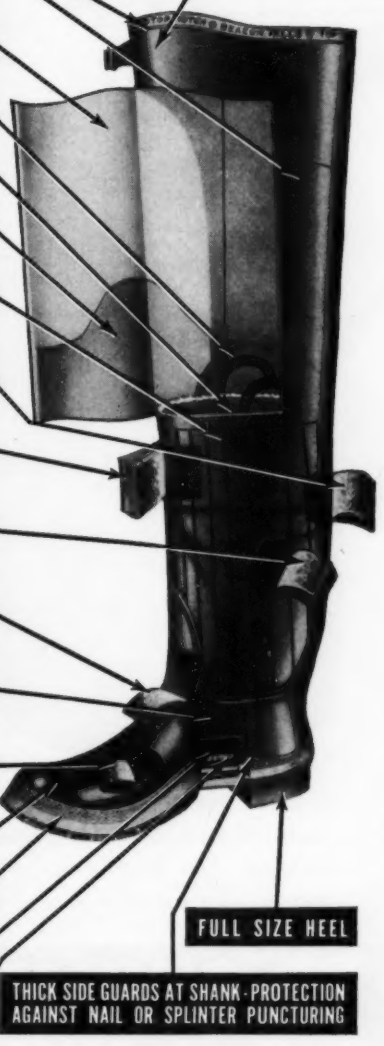
REINFORCING TOE CAP PROTECTION

EXTRA THICK SUPER-QUALITY SOLES

FELT COVERED CUSHION INSOLE

REINFORCED LADDER SHANK

SPECIAL HIP WITH HIGH FRONT SKIRT. ALSO IN SHORT HEIGHT



FULL SIZE HEEL

THICK SIDE GUARDS AT SHANK-PROTECTION AGAINST NAIL OR SPLINTER PUNCTURING

BEACON FALLS RUBBER FOOTWEAR
BEACON FALLS, CONNECTICUT

the station. In case of fire, man on duty leaves with truck and off-duty man comes in to cover station until equipment returns.

This system has proven satisfactory so far, but as the city grows and more paid men can be added, the system can be expanded and improved to meet conditions.

Earl R. McDaniel, Chief, Lexington, Ky.: We maintain a house watch from 7 A. M. until 9 P. M. The length of time each member serves is three hours.

During the night, bells and a public alarm system from alarm station alert companies.

We find that men who sit all night at watch desk are no good at a night fire.

We are a paid department with 103 men.

Boyd Arnold, Chief, Mason City, Ia.: We maintain a 24-hour house watch in the alarm office at headquarters to operate the PBX and three-way radio. We maintain a 12-hour house watch in the stations from 8 A. M. to 8 P. M. and the men on duty stand two-hour watches with the captains taking the 8 A. M. to 10 A. M. watch each day.

It is the duty of the men on house watch to greet all visitors and to take all incoming business and fire calls from the alarm office.

The men in the alarm office work eight hour shifts which are 8 A. M. to 4 P. M., 4 P. M. to midnight and midnight to 8 A. M. Each operator is given one eight-hour shift off each week and a man from the Fire Prevention Bureau is used as fill-in man for these three shifts. We use a roll-away bed in the alarm office and the man on midnight to 8 A.M. shift is fire.

This system is satisfactory as we use the alarm office for men who have been injured or on sick leave and they can return to duty in the alarm office until they are able to go back on the apparatus.

We are a paid department.

Sgt. Fc. Wesley G. Stapleton, 546th Engineer Fire Fighting Co., APO 59, c/o Postmaster, San Francisco, Cal.: I feel that we have an unusual setup here that will be hard to duplicate by any department. It's unusual in that the type of equipment we use consists of 300 GPM engines on 2½-ton army truck chassis and no ladder or special equipment.

Our fire department, although a military one and in some ways different from a civilian organization, does have many things in common.

This unit, here in Pusan, is the only fire fighting company in the U. S. Army. We average nearly 120 runs a month, and of these, about seven each month are multiple alarms (two and three alarms).

It is not uncommon for a group of from 100 to 1,000 houses to burn, as they are constructed of paper and cardboard and a high wind will spread the fire over a large area almost instantaneously.

We do maintain a 24-hour desk watch. Of our 60 soldier firemen, four are assigned as permanent desk watch, and they do not make any fire responses.

From our headquarters main station we operate seven sub-stations throughout the city, each equipped with one engine company manned by two soldiers and five Korean civilian firemen.

We work directly with the Korean City Fire Department and respond to all their alarms as well as to alarms from military installations.

Our alarms are received in one of three ways: either on one of three fire-reporting telephones from the military switchboard or from a direct line from a sub-station to the main station or from the Korean city fire department who also maintains a 24-hour desk watch.

In the last case, there is a little delay because of the language difference. An interpreter must secure the location from the Korean desk watch and relay it to the soldier desk watch at which time the proper equipment is dispatched.

Pusan is a city of somewhere in the neighborhood of from two to three million people and covers an area about the same as Omaha, Neb. The houses are of paper and there are no fire laws.

The method we use to receive alarms so far has met all our needs, but if the city had more telephones or some type of automatic alarm system, it would cut the fire loss materially.

Our department is full paid with the soldier firemen I mentioned plus 114 Korean firemen, half on 24 hours and the other half off.

John J. Nelligan, Chief, Bangor, Me.: We maintain a twenty-four hour house watch. During the day the watch is two hours on and one hour off. During the night, the men work four-hour shifts.

This method has worked out well.

We are a paid department.

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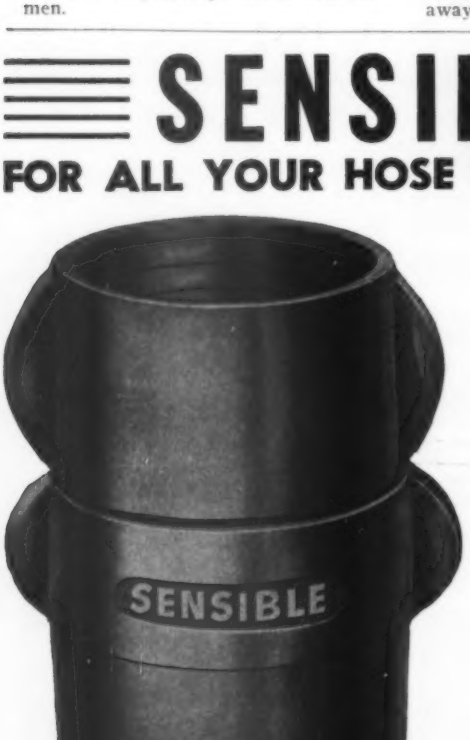

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J. E. Travis, Chief, Salina, Kans.: Our department maintains a 24-hour watch. We employ lady fire alarm operators. Three operators work six eight-hour shifts per week and a relief operator works three eight-hour shifts.

An alarm bell rings in each room and all fire alarm information is given over a radio speaker in each room. Alarms are also broadcast over our radio station just after the trucks leave, which serves as another check. An extension of the fire alarm phones rings in the chief's home, which is of considerable help in training new operators and in giving unusual information.

Our system could be improved, but it has worked out very satisfactorily as far as we are concerned.

We are a paid department.

W. D. Sorrie, Chief, Peterboro, Ont.: Our watchroom is located in the center bay on the main floor of our station facing the main door.

The day watchman is responsible for the receiving of alarms, testing sprinklers, fire alarm and telephones, etc. He also acts as a receptionist and records all department activities which are recorded in the department's daily journal before platoon changing time. He is also responsible for the efficiency and cleanliness of the watchroom.

All thirty-two members with the exception of seven officers, three fire prevention officers, the mechanic and the electrician are required to hold a regular watch which works out to one day watch and one night watch per month. The member on night watch is allowed to recline on a folding cot after 12 midnight, but is required to call the men at 6:30 A.M. Otherwise his duties are the same as the day watch with the exception of daily tests.

It can be seen that the duties of the watchman as outlined give assurance that the member on watch does not suffer from boredom. These duties give him a sense of responsibility. This system has proven quite popular.

B. H. Brown, Chief, Macon, Ga.: A night watch list is maintained at each station. The men rotate. The watch is split from 7 to 2 A.M. and from 2 A.M. until 7 A.M.

There is one man on each watch. He answers phones while in station and responds to fire alarms.

We are a paid department.

New York Has Fire Police Association

On December 1, 1953, the State of New York issued a charter creating the Volunteer Fire Police Association of the State of New York organization which is expected to fill the desire for a state organization that will represent the Fire Police of the state, and otherwise serve the squads which now have official recognition, with passage of a State law.

The Fire Police are concerned with traffic and other problems including cooperation of fire and police services.

The membership is open only to fire policemen. Annual dues are $1.50, and applications for membership should be sent to the Volunteer Fire Police Association of the State of New York, Inc., Lafayette Theatre Building, Suffern, N. Y.

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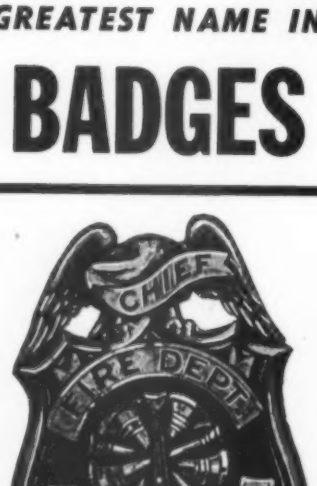

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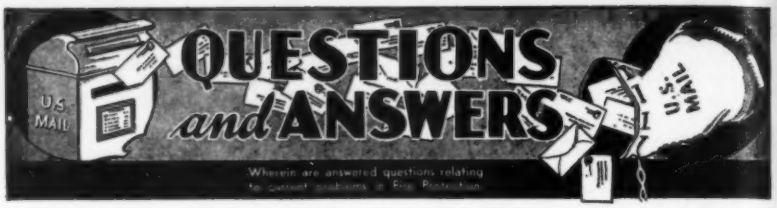

Siamesed Lines

To the Editor:

I would appreciate your clarifying the following statements for me:

Two lines, each one from a separate pumper, are siamesed into a single line. The siamese connection used does not have clapper valves. If pumper A is operating at a greater pressure than bumper B, the pressure from pumper A would back up into the line from pumper B, possibly bursting the hose or causing damage to pumper B. Is this statement true or would the pressure trend to equalize at the siamese? What would be the result if the siamese connection is equipped with clapper valves?

In a recent civil service examination, the following question was asked: "The following type of pumper has the most movable parts to wear out (a) Rotary (b) Piston (c) Centrifugal."

H. H. E.

Answer: If a small nozzle were employed on the single line, and if the parallel lines were short; also, if Engine A was operating at pressure and Engine B at capacity, it might be possible for Engine A to stall Engine B (if positive displacement pumps were employed and if relief valves were improperly set.)

In a practical layout of this general type, where two lines are siamesed into one and supplied by two pumpers, and if reasonable lengths of lines, the pressure would equalize at the siamese, as you suggest. Thus we consider the first statement in your letter would be "False" and the second, "True."

If the siamese connection is fitted with clapper valves, it would be possible for Engine A to cut off Engine B completely, provided pressure delivered by Engine A at the siamese was greater than that developed at Engine B.

Of the three types of pumps mentioned, the piston pump has the largest number of moving parts.

Effect of Heat on Hose

To the Editor:

I would appreciate it if you could assist me in 'pin-pointing" an article which appeared in FIRE ENGINEERING dealing with the effect of fire on the exterior surface of a hose that has water flowing through it. In brief, the article was describing the result of an experiment in which a charged line was placed in the path of a fire with the water flowing through it. The results showed that the flowing water produced a cooling effect on the hose thereby protecting is from damage.

D. T.

Answer: We haven't been able to locate the article you have in mind.

Some years ago we did print an article showing a piece of fire hose, the jacket of which had been ignited by friction of water passing through a constricted area in the hose.

It is our belief that in rubber lined hose, particularly the double jacket type, the outer jacket at least could burn while water was flowing through the hose. This assumes, of course, that the lining is watertight.

It is also possible, but to a lesser degree, that single jacket hose might suffer in a similar manner. The fact that water is flowing through the lining of a piece of fire hose does not mean that the material surrounding this lining, such as the jacket, would not burn.

In the case of unlined linen hose, the matter is entirely different. Here, if the hose is exposed to heat, the jacket will first start to dry out, and the moment it does, water from within will seep through the jacket and prevent it from igniting. As a matter of fact, water flowing through unlined linen hose provides fairly good assurance that the hose will not be involved by fire near it.

Calculations Involving 2¾-Inch Hose

To the Editor:

I would appreciate your solving the following problems for me:

1. Two 1,000-foot lines of 2¾-inch hose are siamesed into a single line discharging 400 GPM. What is the friction loss?

2. One 1,000-foot line of 2¾-inch hose is discharging 300 GPM. What is the friction loss?

3. What will be the engine pressure with a 500-foot line of 2¾-inch hose equipped with a 1¼-inch nozzle?

4. Two 500-foot lines of 2¾-inch hose are siamesed into a single line equipped with a 2-inch nozzle. What will be the engine pressure or nozzle pressure?

C.A.

Answer 1. To solve this problem, as there are no values of K for 2¾-inch hose, we first convert the 2¾-inch hose to 2½-inch.

The conversion factor for a single line of 2¾-inch hose is 1.66.

1,000 ÷ 1.66 = 602 feet of 2½-inch hose.

We thus have two parallel lines of 2½-inch hose each 602 feet in length.

These two lines are combined by using the factor 3.6, for combining two parallel 2½-inch lines.

602 ÷ 3.6 = 167 feet.

Thus the two parallel 1,000-foot lines of 2¾-inch hose are equivalent to a single line of 2½-inch hose 167 feet long.

Find the friction loss per 100 feet of 2½-inch hose carrying 400 gallons per minute.

F. L. = 2 × Q × Q + Q
= 2 × 4 × 4 + 4
= 36 pounds per 100 feet.

The friction loss in 167 feet will be 1.67 × 36, or 60 pounds.

Answer 2. Change the 2¾-inch hose to 2½-inch. The factor is 1.66. One thousand divided by 1.66 = 602 feet of 2½-inch hose.

Friction loss in 100 feet of 2½-inch hose carrying 300 gallons per minute is 2 Q × Q + Q, or 2 × 3 × 3 + 3 = 21 pounds. The friction loss in 602 feet would then be 6.02 × 21, or 126.42 pounds.

Answer 3. This problem cannot be solved for neither the nozzle pressure nor the discharge are known. One of the two must be known before the problem can be worked out.

Answer 4. Here again we must know either the flow or the nozzle pressure or engine pressure before the problem can be solved. If none is given, no answer can be arrived at by calculation.

One for Our Readers

Here's an opportunity to do your fellow readers of this Journal in general, and one fire Chief in particular, a good turn. Read the following letter—then send the Editor such information as you have, and any comments you may care to make:

To the Editor:

In the past number of years we have been having quite a bit of trouble with smoke damage caused by faulty or overworked ballasts in the flush type fluorescent light fixtures and I have been working with the chairman of a code-making panel with regard to having a full panel discussion on this subject at the next meeting of the group in 1954.

I am sure other chiefs have had this same type of loss in their respective cities and towns and I would like to bring this matter out in the open and see if we can do something to eliminate this coming hazard.

I don't know if my case is an isolated one or if others are having the same trouble, but it is a case of where many heads are better than one, and I feel that if we all give our ideas as to the way that this can be cleared up it will be of great assistance to all.

H.F.D. (Chief)

Asks $10,000 for Phone Tie-Up

Stephen Acquard, an Attica, N. Y., farmer, has filed suit for $10,000 against a party line telephone user who would not get off the line so he could call the fire department when his barn caught fire.

The suit was brought against Edmond Starczewski who, according to Acquard, only laughed and continued talking for a "considerable period" when the farmer demanded use of the phone to make his fire call. Mr. Acquard said by the time he got the firemen, his barn and cattle were burned.

Justice Carlton A. Fisher, of Supreme Court, Buffalo, reserved decision on the defendant's motion that the complaint be dismissed.

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SINCE 1836

Among the Buffs

By Paul C. Ditzel

FELLOW Writer Joseph L. Hallett announces that he's putting together a handbook and guide for firefighters and buffs. The pocket-sized book will be called "The Visiting Fireman" and contain lists of buffs and firemen, together with special notes about their interests.

Hallett, who is a former deputy chief of the Norwell, Mass., Fire Department, says the book will also contain lists of fire museums and collections, a swappers column, information about fire fan clubs, contests, photography, model apparatus construction and almost every other firemanic subject imaginable.

"The book is intended as a means of establishing comradeship between men of similar interests and as a guide for vacationing firefighters and buffs," says Hallett who adds that free information and a questionnaire are available by writing him, c/o Box 216, Norwell, Mass.

From Buffalo, N. Y., comes word from fans of an exceptionally smelly fire. And they weren't referring to the intensity of the smoke. Engine 8 spent a total of 60 hours at the scene of a multiple alarm fire at the Dold Feed Co., and many more hours than that attempting to eliminate the smell of fish meal from their equipment afterwards.

"We've had to wash and rewash the hoses and scrub the ladders," said one of the firemen, "and the smell is just beginning to fade."

PFC Raymond A. Foster, RA 51234361, PIO HQ FEC, APO 500, San Francisco, writes from Tokyo that the city has the second largest fire department in the world with 218 stations. The apparatus is red and is smaller than the heavy types so common in American cities.

"Hose is carried in reels in the hose compartments of the pumpers rather than being racked as is American practice. Unfortunately, there are no American type hook and ladders and the few aerials they do have are of typical European type with the turntable mounted at the tail.

"One item of interest is the traditional fire spotting tower located beside the older wooden firehouses or atop the modern structures. They are, of course, no longer effectively used for locating fires, but are now used as hose drying racks for hanging up wet hose. However, the interesting part about these towers is that the skyline of a Japanese city would look incomplete without them," says Foster.

He describes Tokyo as a "buff paradise" and says the city has many high hazard areas. Predominantly wooden construction, narrow streets, low hydrant pressure and disregard of zoning are the main factors.

"Many times a residential city block gets going and is merely classified by the authorities as an 'all hands worker.' United States Army engines, manned by Japanese Nationals, respond to all multiple alarm fires."

Foster said he'd be glad to correspond with anyone interested in more information on Japanese fire-fighting.

Frank C. Happe, 2619 East 34th St., Brooklyn 34, N. Y., sends word that the 255 Club of Brooklyn was given a merit award by the Uniformed Firemen's Association. He says the citation was in appreciation of the club's services given to firemen on all third and greater alarms, day and night, over a period of years.

That young buff, Bruce Rice of Box 148, 56 Pond St., Wickford, R. I., should be getting plenty of mail, judging by the comments received by this column. Bruce, himself, acknowledged the recent mention of his debut into buffing and said he's looking forward to building up his collection of firemania.

Smokestack Hardy of 615 Carrollton, Baltimore 17, Md., whipped off a long letter to this column, then proceeded to send one to Young Rice.

"Things have been moving in the fire line here," says Smokestack. "We've had seven multiples so far during January.

"I generally go to my company—Engine 13—on New Year's Eve and stay until they get their first run of the New Year. Things started out right after midnight and the entrance of 1954 was greeted with a 2-2 on Box 2622 at 1:59 a. m. Then Box 846 hit at 9:57 a. m. with a 2-2 846 at 10:00 a. m. Engine 13 took the second alarm for their first run of 1954.

"Getting in some good items for my collection. Have two registers and now another gong. Have been trying to get a brass fireman's helmet. Anyone know where I can get one?"

Don Kimball, 4806 Berwyn Rd., College Park, Md., says he's a reformed railroad camera fan and has junked his hobby to become a firefan.

"During the last few years—15 or so—

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I've accumulated several thousand pictures, mostly of the 4½ by 2¾ size. Now the problem is, do you know anyone who trades fire apparatus pictures for rail pictures?"

That's it for this month. Thanks to those of you who commented on my front-cover piece in the March issue of *Male Magazine* on the disaster at the Farban Chemical Plant. Hope you continue to send along your fire buffing anecdotes and special wants to me at: 419 Napoleon St., Playa del Rey, Calif.

World Wide Fire News

By Roi B. Woolley

Noronic Awards $2,725,000—669 Claimants

Awards totalling $2,724,196 were made by a Federal Court commissioner in Cleveland, Ohio, Jan. 29th last, on 669 damage claims resulting from the burning of the Canadian Steamship Noronic on Sept. 17, 1949.

The Noronic was totally destroyed by fire while alongside a dock in Toronto, Ont., with loss of 119 lives of the more than 500 passengers and crew aboard.

Claims exceeding $19 million were filed soon after the disaster, most of the claimants being from Ohio, Michigan and Pennsylvania. Two years ago, Judge Paul Jones approved a plan for settling all claims for $2,150,000 and the steamship company deposited that sum with the court. The awards made in January by Commissioner Ralph Vince exceed that amount by $574,196.

The awards were earmarked $1,114,180 for 111 death claims; $1,508,135 for 253 injury claims; $32,248 for 77 personal property claims, and $69,633 to 238 creditors, mainly insurance companies, which advanced payments to claimants.

The settlement is said to be one of the largest ever made in a maritime disaster and compares with $890,000 paid out when the liner Morro Castle burned in 1934 with 134 deaths.

* * *

London's Telephone System—and False Alarms

Firefighters who are being told all about London's substitution of telephones for municipal fire alarm boxes because, among other reasons, the shift would "reduce the number of false alarms," might be interested in the press reports on one Peter Vincent Keane, a 25-year-old kitchen porter, who appeared in London's magistrate's court on Dec. 30th, last, on charges of:

Turning in 118 false fire alarms; sending some 200 taxis on false errands; stealing between 200 and 300 letters; stealing money; forgery; and about 130 other counts involving some form of dishonesty.

It was brought out that Keane was a deserter from the Irish Army twice, and twice also from the British Army.

'Twould seem the "handy," "convenient" telephone is made to order for false-alarmists in dear ol' Lunnon, as elsewhere.

* * *

The Age We Live In!

In Toronto, Ont., a student streetcar operator crashed his packed, jammed rush-hour trolley into the back of a truck loaded with loose caustic soda, and 19 persons were burned by the showering chemical.

The soda poured through the shat-

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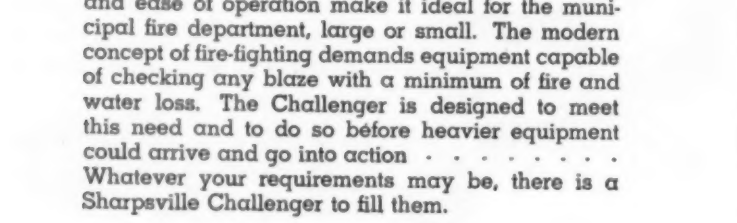

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tered front windows of the street car "like a blizzard," burning the packed-in passengers in the faces and hands and eating through their heavy winter clothing. One man's trousers were burned almost completely off.

The screams of the injured, many of them temporarily blinded, could be heard for a block as they struggled to get out the doors, which were jammed by the crash. Police and firemen finally kicked the doors open and then commandeered private cars and taxis to take the victims to hospitals.

* * *

A Loud Report from Horseheads!

A section of a natural gas pipeline exploded the night of Dec. 16th, last, near Ithaca, N. Y., causing fires that destroyed a farmhouse, a barn with from 26 to 28 head of cattle, three smaller buildings, and wrecked three vehicles.

According to a press release from Horseheads, N. Y., flames, which leaped as high as 200 feet into the air, raged out of control for more than two hours and were visible for 50 miles.

The farm family escaped harm because all were away attending prayer meeting. The blast, in a 22-foot section of a 20-inch gas line, dug a crater 15 feet deep and 20 feet wide. One employee of the N. Y. State Natural Gas Corp., owner of the pipeline, suffered superficial burns.

The blast occurred at 10:00 P.M. and the last fire was put out at 1:15 A.M. the next day. No report of the amount of property loss or of the cause of the explosion was received.

* * *

Fires Burn Undetected in London Smog

One of the thickest fogs of the winter blanketed much of Britain in December and the British Broadcasting Corp. issued a smog warning over its nationwide network under a new alerting system set up after about 4,000 persons died last year as a result of a thick, smothering fog.

"Please try to cut down on your emissions of smoke in order not to make the atmosphere thicker than it is," the warning said. The fog was so heavy, however, that a garage burned to the ground, and a barge on the Thames River burned for hours before the fires were discovered.

Fire rigs, it was reported, crawled at a snail's pace, in some cases preceded by a "scout."

* * *

What Price Prevention?

According to the Australian newspaper "Truth," in order to test security measures this paper placed two fake "time bombs" aboard British planes, one of them carrying the British Chancellor of the Exchequer.

It said the package placed on the Exchequer's plane made a loud ticking noise but airlines officials cleared it nevertheless without further ado when a newspaper reporter told them it was an alarm clock. The other package was stamped "fragile" and given special handling.

"Truth," which bannerlined its story "It Can Happen Here," recalled the crash of a Comet jet with 35 persons aboard and the crash of a Philippines airliner in Rome that killed 16. The British Overseas Airways Corporation sent security agents to all Comet stops on the route to the far east after the Comet crash, to investigate the possibil-

ity that a time bomb might have been hidden in the plane's luggage compartment.

Seems like some "security" measures aren't so secure!

* * *

Hot Off the News Ticker

In Calgary, Alberta, the old No. 5 fire hall, which for years has resounded to the wail of fire sirens, will hear wails of a different sort. The city health department has converted it into a clinic for babies. . . . Press dispatches reported on Feb. 4 that 16 persons were killed and 1,800 left homeless by fires that destroyed two villages in northern Egypt. . . . The British Commonwealth Division transit camp in Seoul was destroyed by a mysterious fire on Feb. 7th—there were no casualties reported. . . . Death toll in the fire-razed rail and river station town of Henzda, Burma, was set at 15, on Jan. 31st. Fire broke out in Henzada, 76 miles northwest of Rangoon, on Jan. 27th, leaving more than 8,500 families homeless. Damage was estimated at $7 million. . . . At least seven persons, including three children, died Jan. 16th in a fire that destroyed a motion-picture theatre in Otaru, Japan. . . . In Sycamore, Ill., 10-year-old Kent Smith died Feb. 6th after being terribly burned by a gasoline flash in the basement of his home. He was assembling a gasoline bomb when it blew. . . . One woman died and 17 others were hospitalized, two critically injured, as a result of a blast which shattered half of one building of the big Bermite Powder Co. plant at Newhall, Calif., on Jan. 28th. The explosion, which came about noon, rocked Newhall, located several miles from the $2.5 million plant where explosives for the armed services are made. . . . The British are encountering more sabotage, five cases being reported in as many weeks. The most recent two, reported on Feb. 7th, involved cutting of electric cables on the aircraft carrier Glory and damage to guns on the carrier Eagle. The government discounts chance of organized sabotage by political enemies. . . . Fire in the 5005th Air Force Hospital at Elmendorf Field, near Anchorage, Alaska, on Feb. 2nd, caused the death of a nurse and injuries to two others. All 100 patients were said to have been safely evacuated. Damage over $100,000. . . . Prof. Otto R. Frisch, British scientist who helped develop the first American atom bomb, believes a "cobalt bomb" could wipe out all civilization. "I don't know how you would stop it," he said; "it would destroy friend and foe alike." . . . The second large blaze to hit Pusan, Korea, in two months, destroyed more than 1,500 homes and left more than 8,000 persons homeless.

January Fire Losses

Estimated fire losses in the United States during January amounted to $86,493,000, it was reported by the National Board of Fire Underwriters.

According to Lewis A. Vincent, NBFU's general manager, this $86,493,000 loss represents an increase of 12.8 per cent over losses of $76,659,000 reported for January, 1953, and an increase of 3.7 per cent over losses of $83,440,000 for last December (1953).

These estimated insured losses include an allowance for uninsured and unreported losses.

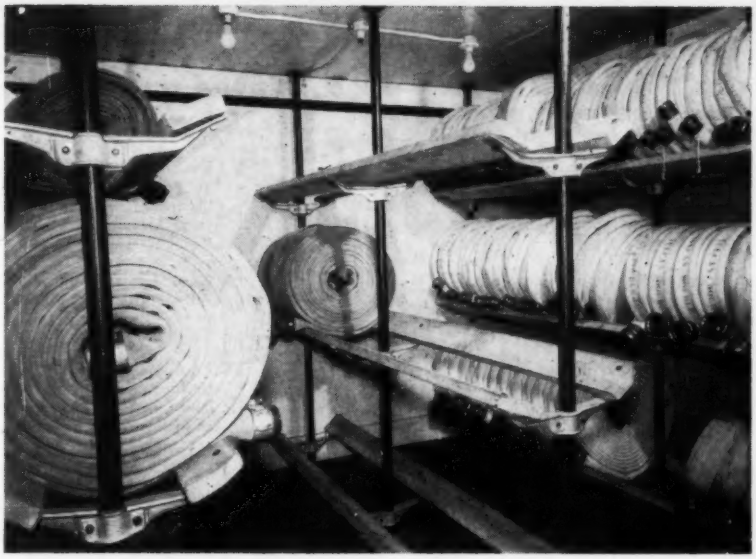
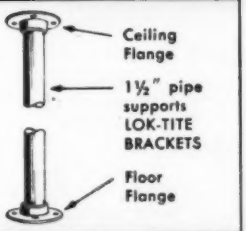


Photo Courtesy Wichita Fire Station No. 1

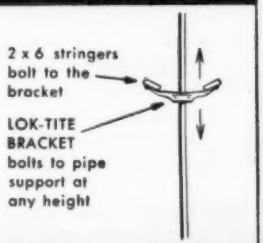
The Solution to Hose Storage Problems

FEATURES

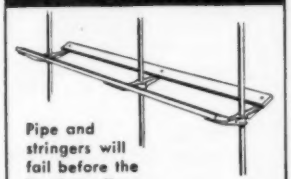
SIMPLE INSTALLATION



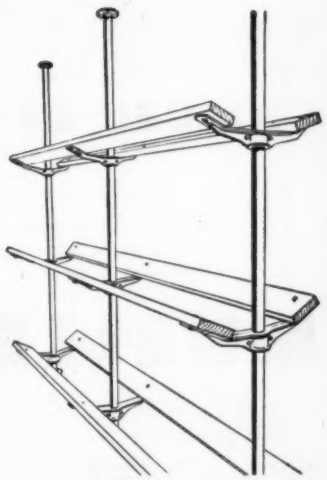
EASY ADJUSTMENT



BIG LOAD SUPPORT



Build Your Own Racks With Lok-Tite Brackets



MIGHTY few station houses have all the room they need for good housekeeping. Lok-Tite brackets help solve the hose storage problem by allowing ample ventilation and access in limited storage space.

Build your own racks with new or used materials. Design your own storage to take full advantage of the space available. Have ample room for fittings inspection and ventilation.

Lok-Tite brackets, light weight aluminum alloy, designed for strength and easy installation.

$3.65 F.O.B. Wichita

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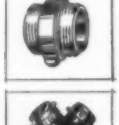
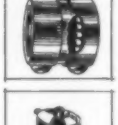
Double male connections furnished with ear lugs, as shown, or with pin lugs. Larger sizes furnished with long handles.

Double female connections all furnished with rollers, as illustrated, available in the same forms as double males.

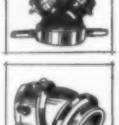
Hydrant or pumping unit Wye, furnished as illustrated, all threads recessed with Higbee form cut.

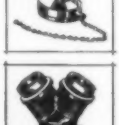




Caps furnished in all sizes, with or without chain connection.

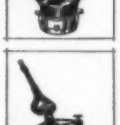
Angle elbow eliminates crimping of hose at the pump and allows full stream capacity.





Plain Siamese or Wye, can be furnished with one female inlet and two male outlets, or with two female inlets and one male outlet.

Screw stem type gates, including a 2½" quarter turn gate valve, for the absolute stoppage of water.



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OUR PROPOSITION—We will gladly ship sample outfits at our expense on 30 days' trial anywhere in the United States, subject to any test desired. If the product does not come up to our claims in every particular, you can notify us and hold shipment subject to an order. If we can accomplish what we claim you certainly should not be without the product—if we cannot it costs you nothing.

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FIRE HYDRANT

Oil Reservoir — Assures positive lubrication of stem threads.

Dry Top Design — Prevents freezing of stem threads.

"O" Ring Seals — Make permanent water-tight seal around stem.

Breech Locked Nozzles — Interlocking lugs prevent blowout.

Compression-type Main Valve — Closes with water pressure.

Double Drain Valves — Integral part of main valve assembly.

Double Drain Openings — Force flushed each time hydrant is operated.

Safety Stem Coupling and Safety Flange — Coupling and flange break on impact, preventing damage to stem and barrel. Permits convenient facing of nozzles. Extension sections may be added or upper barrel may be changed from two-way to three-way hydrant without digging or water shut-off.

Bronze Seat Ring — Straight threads for easy removal.

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Persons in the News

E. F. Cavanagh New Fire Commissioner

New York City has a new Fire Commissioner who is a Simon pure Buff. He has been chasing fires since he was a boy. Edward F. Cavanagh, Jr., 45, graduate of Georgetown College and Harvard Law, a native New Yorker, admitted to the Bar in 1931, was appointed by Mayor Robert F. Wagner on February 15.

Edward F. Cavanagh

As a Lt. Col. in the Army in World War II, he was fire conscious, as witness the Legion of Merit Award by Uncle Sam for having reduced fire losses in Army Bases and Supply Depots.

In 1948 as Deputy Commissioner of Hospitals in New York, he standardized fire drills. He was Commissioner of Marine and Aviation of New York for a few years where he waged an intensive fire prevention campaign. The shipping industry in 1953 voted him "The Man of the Year in the Port of New York."

Commissioner Cavanagh succeeds Jacob Grumet, who resigned. Mr. Cavanagh has the distinction of being the first fire fighting fan to become Fire Commissioner of New York. A forthright and courageous individualist, his appointment is being acclaimed generally as one of the best things that has happened to the New York Fire Department in many years. JERRY DALY

Chief J. A. Slattery Advanced

Fire Chief John A. Slattery, long head of the Rochester, N. Y., Fire Department, becomes Fire Marshal, and Deputy Chief Walter J. Adams, another veteran fire fighter, becomes Fire Chief, in the reorganization of the City's Fire Bureau, it was announced on Jan. 27th, last.

As Marshal, Chief Slattery will direct fire prevention, one of the two divisions which will make up the Bureau under the new set-up. Adams will be in charge of fire fighting, the other division.

The reorganization is effected by Public Safety Commissioner Kenneth C. Townson, with approval of City Manager Robert P. Aex. To strengthen Slattery's division, a whole new enforce-

ment code is being prepared, patterned after that of the City of Detroit, which will provide broad powers of law in enforcing safety provisions.

The new Chief of the Fire Fighting Division has had 39 years' service in the department. He is 62 and became a fireman June 1, 1914. After successive promotions to lieutenant, captain and battalion chief in 1922 and 1931 and 1946, he became deputy chief June 1, 1950. His brother Edward is a deputy chief. The Adamses come of an old fire fighting family, as their father John was a Rochester fireman from 1884 to 1900.

Chief Slattery became a fireman December 1, 1909, was made lieutenant in 1914, captain in 1918, battalion chief in 1923, deputy chief in 1938 and chief in 1941. He is a member of the International Association of Fire Chiefs and numerous state and other fire organizations.

Pastor Serves as Fire Chief

Nearly every fireman has heard about the fire fighter who fought earthly fires during the week, and on Sunday wrestled with the fires of the hereafter. Now comes to light such a person, and he is not only a pastor-fire fighter; he is a pastor-fire chief.

His name is Rev. Russell Edmondson and he is pastor of the Shavertown Bible Church. When not preaching, he is Chief of the Shavertown Fire Department. Shavertown is a small community located about ten miles northwest of Wilkes-Barre, Pa.

At present the Shavertown Fire Department has a Federal truck with 250-gallon pump and 1,200-gallon booster tank. Just recently the department signed a contract with Peter Pirsch & Sons for a 200-h.p. truck with a 750-G.P.M. pump and a 1,000-gallon booster tank.

Parson-Chief Edmondson preaches the "Old Fashioned Gospel," and in his sermons he ties in the question of mortal and eternal fire with the business of fire prevention and fire protection. On the outside, when not engaged on the Lord's missions, and not actually fighting fire, he is deeply interested in fire prevention. He is an active promoter of Fire Prevention Week, working with school students as well as parents.

Chief Smalenberger Ends Long Service

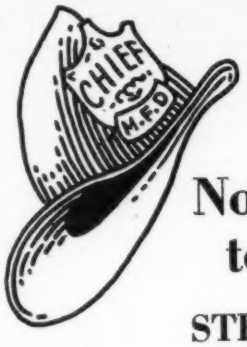
Fire Chief Charles Smalenberger retired as head of the Meadville, Pa., Fire Department on Jan. 26th, last, ending a 57-year career in the fire service, 28 of those years as chief of department.

Assistant Fire Chief Fred Carman will be elevated to the post left vacant by the retirement.

Chief Keelan of Elizabeth Out

Just short of completing 42 years in the Elizabeth, N. J., Fire Department, Chief Patrick J. Keelan closed his desk and an active career on Jan. 19th, last. Retirement date is March 1, 1954, he being given pre-retirement leave. He has been head of the department since 1944.

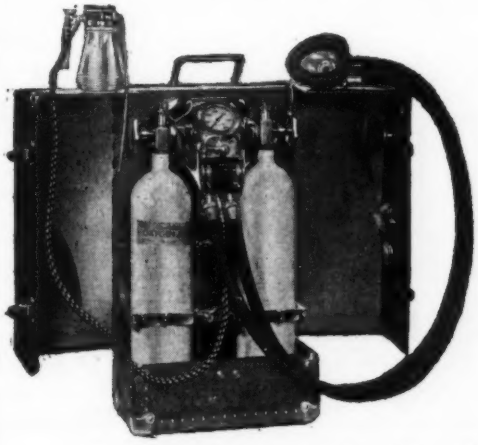
Chief Keelan joined the department in 1912. In 1914 he was made driver, and in 1918 was promoted to lieutenant. In 1925 he was advanced to captain; in 1938 to battalion chief, and in 1943 he moved



Chief—

Now is the Time for You to have available the

STEPHENSON RESUSCITATOR



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See for yourself the effectiveness of the new

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WEIGHS ONLY 110 LBS.

MORE **EFFECTIVE** FIRE PROTECTION

CITY • RURAL • FOREST

MODEL 6600 PUMPER—Instantly Self-Priming—No waiting when seconds count

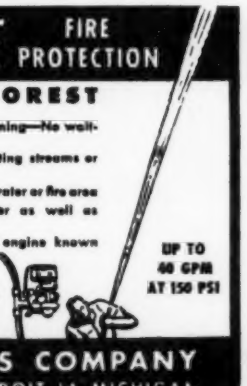
HIGH PRESSURE—Use one or two hard-hitting streams or fire-blanketing fog-spray

LIGHT WEIGHT—Easily carried to source of water or fire area

NEOPRENE IMPELLERS—Pump dirty water as well as clean water—assure long life

POWER—Efficient 4-cycle, air-cooled 5 HP engine known and serviced world-wide

BY-PASS VALVE, SPRING LOADED GREASE CUP, NO LOSS OF PRIME, PLUS MANY OTHER FEATURES



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If you are building, send for free copy of "Fire Station Design"

NEW HOSE DRYING MANUAL TELLS HOW TO DRY, STORE AND CONSERVE FIRE HOSE

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up to deputy chief. He became chief a year later.

His tenure as chief was marked by broadening of the department's public relations and educational programs, and extensive growth in manpower and equipment. Illness hastened his retirement.

Chief Keelan and his wife were familiar figures at fire chiefs' conventions over much of the country.

His successor is Chief Edward F. Deignan, who takes over the reins on March 15th.

Chief J. Ludie Croom Retires

Chief J. Ludie Croom, for many years chief of the Wilmington, N. C., Fire Department, retired February 10, following 47 years of service.

In his letter of resignation, the chief said his action was brought about by the recent amputation of his right leg, which incapacitated him. In order to obtain service benefits the chief's action was that of resignation and not retirement. Councilman J. E. L. Wade proposed a resolution, which was approved by council, thanking Chief Croom for his long service, and that he be the guest of the new fire department headquarters to be constructed in the near future; further, that a bronze tablet be placed at the new headquarters recounting the chief's long service.

Chief Croom will be remembered by delegates of the I.A.F.C. Toronto Convention, where he showed pictures and told about of the city's worst pier fire.

Chief Rudy Swanson Retires

Rudolph H. Swanson, former president of the International Association of Fire Chiefs and head of the Jamestown, N. Y., Fire Department since 1940, retired early this year.

Rudolph H. Swanson

Chief Swanson, who at one time was a sergeant in the police department of the Erie Railroad, became a fireman in 1932, being appointed chief in 1940, since which time he also served as assistant building inspector, chairman of the board of electrical inspectors, and deputy director of civil defense.

He became president of the International Association of Fire Chiefs in 1951, after successively filling the posts of director, and vice-presidents. While president he visited Europe, where he stud-

ied fire-fighting methods in England, France, Denmark and Sweden. He attended the Annual Convention of the British Fire Service and was awarded the distinguished Medal of Honor for his contribution to the fire service. He later visited Puerto Rico.

Chief Swanson is chairman of the N. Y. Fire Advisory Board. He is presently serving as a member of the Federal Civil Defense Administration Fire Advisory Committee, Washington, D. C. He also is a member of numerous committees of the National Fire Protection Association and the International Association of Fire Chiefs, among them the Committee on Specifications for Fire Apparatus.

Chief Swanson is a member of numerous other fire service organizations and in that capacity he is one of the most widely known and respected members of the nation's fire services.

I.A.F.C. Board Reviews Plans for Year

The annual mid-winter meeting of the Board of Directors of the International Association of Directors was held at the Hotel Martinique, New York City, Feb. 15-18th last.

President Henry G. Thomas of Hartford, Conn., presided at the opening sessions and introduced the new general manager, John Gerletti, who succeeds James E. Jagger. Chief Thomas also presented to the Board the ten-man team of Italian fire fighters and their interpreters who are touring this country. Their leader is Armande Franchio, Assistant Fire Chief of the Rome, Italy, Fire Department.

President Thomas in his annual report expressed pleasure at the strong position of the Association, both in membership and finances. He praised the Headquarter's staff and others who helped make the Toronto, 1953, Conference such a success. He pledged aid to the N. F. P. A. national "Clean-up" drive and urged getting actively behind the International's endeavor to cut the fatal toll of children's deaths from fire. He also urged added efforts to increase the organization's membership, and promised support to past-president Chief George McAlpine, Oklahoma City, who is chairman of the membership committee.

Chief Daniel B. Tierney of Arlington, Mass., secretary-treasurer, reported the Association in a financially healthy condition. Mr. Gerletti outlined a number of improvements and projects to benefit Association members and broaden the organization's activities. The Headquarters' Office will distribute to members at least two new exclusive publications during 1954.

The Board approved the appointment of Committee chairmen as follows: Arson: George Clough, Nassau County, N. Y. Fire Marshal; Program: Fred Shepperd, Editor, Fire Engineering; Exhibits: Chief L. C. Canning, Midvale, Utah; Constitution & By-Laws: Fred Shepperd; Radiological Hazards: Matthew M. Braidech, National Board of Fire Underwriters, who will also head the Committee on Fire Control of Fuel Gases; Economic Status of Fire Chiefs: Chief William Fitzgerald, Seattle, Wash.; Legislation: Chief William Taylor of Burbank, Calif.; Publications: President Thomas; Fire Prevention:

No lubrication necessary
Carbon bearings (oilless)
2 Piston-finished stainless steel shafts
Bronze housing (Oberdorfer alloy No. 741)
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OBERDORFER
BRONZE BOOSTER PUMPS

These booster pumps with oilless bearings will last 3 to 5 times longer than the old style equipped with plain bronze bearings. As a result of closer machining tolerances, over 20 feet of suction lift may be depended on.

The No. 13 and No. 26 Oberdorfer Pumps are more fool-proof than they have ever been. When you get to a fire you have something you can count on. It isn't necessary to wear pumps out checking them periodically to see if they will work. These pumps are metering pumps in principle and therefore must produce the same volume for every revolution of the drive shaft.

PERFORMANCE DATA—No. 26 and No. 13 PUMPS

Pump No.	Pump Shaft R.P.M.	Pounds Pressure	Hose Length and Size	Dry Suction Lift in Feet	Vol. in Gal. Per Minute
26	1600	120	500'—1½"	20'	150
13	1600	120	500'—1½"	20'	75

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Jay Stevens, San Francisco, and Communications: Chief Roi Woolley of Larchmont, New York.

It was voted unanimously to have President Thomas represent the Association at the forthcoming National Tournament of the British Fire Service in London later in the year.

Chief Eugene W. Fields of the Omaha, Neb., Fire Department, with representatives of the Chamber of Commerce, invited the Association to hold its 1955 Convention in that city. Invitations for later conventions were received from Detroit, Mich., and Rochester, N. Y.

Considerable discussion was had on the report of the Chairman of the Committee on Communications concerning false alarms and the proposal of telephone companies to substitute telephones for conventional municipal fire alarm systems. Before the close of the sessions, a Resolution was adopted by the Committee, and in turn by the Board, after it was submitted by and discussed with representatives of the International Muncipal Signal Association who were the invited guests of the chiefs. These representatives were William Hennessey, Chief Engineer, New York Fire Alarm Bureau; John Jordan, Supervising Dispatcher, Brooklyn Fire Alarm Office; Frank O. Schierff, Philadelphia Bureau of Fire, and Irving Shulsinger, secretary-treasurer, International Municipal Signal Association. Deputy Chief Thomas P. O. O'Brien, in charge, Bureau of Fire Alarm, New York Fire Department, also spoke on the matter. The Resolution as adopted reads as follows:

"WHEREAS: The Committee on Communications of the International Association of Fire Chiefs in session this 17th day of February, 1954 has reviewed before the Board of Directors of the Association the question of the municipal fire alarm systems vs. the commercial telephone fire alarm systems, and

"WHEREAS: The Board of Directors of the I. A. F. C. and the Committee on Communications of this Association, has listened to the recommendations of the Special Committee of the International Municipal Signal Association submitted this day, therefore

"BE IT RESOLVED: That the Association recommends—

"1. That the National Board of Fire Underwriters Standards for fire alarm systems, as set up in its Pamphlet 73 be not relaxed.

"2. That the standard schedule for grading continue to penalize for failure to meet the standards of Pamphlet 73, N. B. F. U.

"3. That no contract for a telephone alarm system be entered into without the opinion of competent authority as to the adequacy and dependability of the proposed system, and as to the costs of same, as compared with a conventional wired system.

"4. That all Fire Chiefs' organizations and fire alarm officials be alerted as to the necessity for maintaining existing fire alarm systems at a high standard of efficiency.

"5. That all Fire Chiefs' organizations, the National Fire Protection Association, and the International Municipal Signal Association collaborate and cooperate to effectuate these recommendations."

The position of the National Board of Fire Underwriters was explained by George Swan, Assistant Chief Engineer. Chief Fitzgerald, of Seattle, summed it up by declaring that the fire services should go along with the existing approved and satisfactory fire alarm systems—at least until something better from an engineering basis had been developed.

The speaker at the Board's noonday luncheon was Mr. Percy Bugbee, General Manager of the National Fire Protection Association. Guests at the luncheon included New York's new Fire Commissioner Edward Cavanaugh and Fire Chief Peter Loftus, and other notables.

High point of the Tuesday session was a discussion of the recommendation by certain municipal groups that fire and police forces be merged as an economy measure. Although no formal action was taken, it was the concensus of the Board that the practice is detrimental to good fire protection.

President Thomas acquainted the Board with developments in the Federal Civil Defense Administration's proposal to subordinate the fire services to rescue services. The members generally expressed displeasure over the action and urged sending a committee to Washington to review the matter and enter protest.

Reports from the various Regional Divisions of the International were received and discussed. The Headquarters' Office is to keep a close check on convention dates and see that, if possible, the Divisional dates do not conflict with those of other fire service meetings.

On Monday afternoon, the I. A. F. C. Board and guests were entertained at

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In every emergency when speed is essential, light, pliable, easy-to-handle SHUREDRY COVERS meet the need of salvage crews. These famous Fulton Covers are made with waterproof seams and are pressure impregnated with the exclusive "Shuredry" treatment. To help cut down fire losses . . . specify FULTON SHUREDRY SALVAGE COVERS.

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an informal cocktail party by the American La France-Foamite Corporation, Mr. Hugh Walker. On Wednesday, the National Board of Fire Underwriters was host to a luncheon given for the Board and guests. Among those members of the National Board in attendance were: Mr. Lewis Vincent, general manager; Bruce Bielaski, assistant general manager; John Neale, chief engineer; George Swan, assistant chief engineer; Boyd Hartley, his assistant and Wendell Sether, director of public relations.

The Board voted unanimously to hold the 1955 convention of the Association in Omaha, Neb. The Board discussed with Chief Joe Lobue, Houston, Tex., details of this year's conference, to be held in that city in October 18-21. The headquarters hotel will be the Rice Hotel and meetings and exhibits will be staged in the Municipal Coliseum, located four blocks from the Rice Hotel.

Eel Block Gate Valve

Something new has been added to the sprinkler system in the warehouse of the Howland Dry Goods Company at Bridgeport, Conn.

Inspectors, making a routine check of the system on Dec. 2, discovered an eel, two inches in diameter, and 32 inches long, in the water pipe.

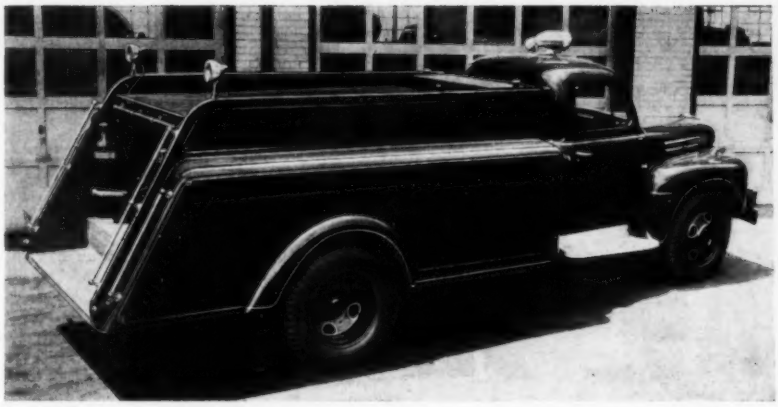
A 32-inch eel, two inches in diameter, won its freedom from a water pipe in a Bridgeport, Conn., warehouse, but died in the attempt. The eel was trapped as an American District Telegraph Company inspector closed a valve in a sprinkler system line. Howard Pervear, left, Jose Engineering Company mechanic, is shown inspecting the remains of the eel with Al Christian.

James Gomperts, an inspector, called for a couple of more muscle men to lend a hand when he was unable to close a six-inch water pipe valve connected to a hydraulic main at the warehouse.

The trio finally managed to get the valve closed, but it made a funny sound, so Howard Pervear, a mechanic for the Jose Engineering Company, was summoned to dismantle the jammed valve.

When he took it apart he found half of the then dead eel jammed in the valve. The other half was in the sprinkler pipe. Asked for an explanation of the hydraulic hindrance, Samuel P. Senior, President of the Bridgeport Hydraulic Company, said the incident was "very unusual." He said the eel apparently passed through a reservoir screening system while still tiny and must have grown to its present size during its stay in the water pipes.

TOM MAGNER



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BRENDAN "PETE" BATTLE is a special agent in the Arson department of the National Board of Fire Underwriters.

PAUL B. WESTON is a Deputy Inspector in the New York City Police Department and author of such other books as *The Detection of Murder, Narcotics, U. S. A.*, etc.

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Convention Dates

Apr. 5-9—GREATER NEW YORK SAFETY COUNCIL, INC. Annual meeting, Hotel Statler, New York, N. Y. For information, contact the Greater New York Safety Council, 60 East 42nd Street, New York 17, N. Y.

Apr. 6-9—THIRD ANNUAL MARYLAND SHORT COURSE FOR FIRE INSPECTORS. Annual meeting, University of Maryland. For information contact Robert C. Byrus, Director Fire Service Extension, Fire Service Building, University of Maryland, College Park, Md.

Apr. 19-23—OREGON STATE FIRE SCHOOL. Annual meeting, Hillsboro, Ore. Director, Elmer H. Halstead, State Supervisor, Public Service Training, 105 State Library Building, Salem, Ore.

Apr. 25-27 — NEBRASKA STATE FIRE SCHOOL. Annual meeting, Grand Island Airport, Auditorium Hangar No. 3, Grand Island, Neb. Secretary, Russell D. Salak, P. O. Box 312, Schuyler, Neb. School Director, Otto B. Johannes, Columbus, Neb.

Apr. 26-30—MINNESOTA STATE FIRE SCHOOL. Annual meeting, Agricultural Institute, Farm Campus, University of Minnesota, St. Paul 1, Minn. Co-Chairmen, Dr. J. O. Christianson, University of Minnesota, and Leonard C. Lund, Deputy Commissioner, Fire Marshal Department, St. Paul 1, Minn.

Apr. 26-30—OKLAHOMA STATE FIRE SCHOOL. Annual meeting, Oklahoma A. & M. College, Stillwater, Okla. Director, R. J. Douglas, Head, Fire Protection Department, Oklahoma A. & M. College, Campus Fire Station, Stillwater, Okla.

Apr. 26-30 (tentative) — LOUISIANA STATE FIRE SCHOOL. Annual meeting, Baton Rouge, La. Superintendent, Chief R. A. Bogan, Fire Department, Baton Rouge, La.

May 1-2—REGIONAL FIRE SCHOOL FOR WESTERN MARYLAND. Annual meeting, Frostburg, Md. For information contact Robert C. Byrus, Director, Fire Service Extension, Fire Service Building, University of Maryland, College Park, Md.

May 2—NEBRASKA REGIONAL FIRE SCHOOL, Spalding, Neb. Secretary, Russell D. Salak, P. O. Box 312, Schuyler, Neb.; School Director, Otto B. Johannes, Columbus, Neb.

May 3-6—NORTH CAROLINA FIRE COLLEGE. Annual meeting, Charlotte, N. C. Director, Charles L. Burkett, Chief of the Fire Department, Salisbury, N. C.

May 3-7—ARSON INVESTIGATORS' SEMINAR. Annual meeting, Purdue University, Lafayette, Ind. For information, contact Professor Shelby Gallien, Director, Public Safety Institute, Purdue University, Lafayette, Ind.

May 3-7—ALABAMA STATE FIRE COLLEGE. Annual meeting, University of Alabama, Tuscaloosa, Ala. Director, M. O. Hulsey, Assistant State Supervisor of Trade & Industrial Education, P. O. Box 1813, University, Ala.

May 8-9—FIRE SCHOOL FOR EASTERN MARYLAND. Annual meeting, at a place yet to be announced. For information, contact Robert C. Byrus, Director, Fire Service Extension, Fire Service Building, University of Maryland, College Park, Md.

May 10—FLORIDA STATE FIRE COLLEGE. First of four sessions, Ocala, Fla. Director, W. H. Barnett, Superintendent, Florida State Fire College, P. O. Box 785, Ocala, Fla.

May 16—NEBRASKA REGIONAL FIRE SCHOOL, Beatrice, Neb. Secretary, Russell D. Salak, P. O. Box 312, Schuyler, Neb.; School Director, Otto B. Johannes, Columbus, Neb.

May 17-21—NATIONAL FIRE PROTECTION ASSOCIATION. Annual meeting, Washington, D. C. General Manager, Percy Bugbee, 60 Batterymarch Street, Boston 10, Mass.

May 17-22—CONNECTICUT FIRE COLLEGE. Annual meeting, New Haven Fire Department Training Ground, New Haven, Conn. Program will consist of five days of fireman training (May 17-21); two-day session of Fire Marshal section (May 17-18); a three-day session of the Industrial and Institutional Section (May 19-21) and a Fire Fighters Field Day (May 22). Director, L. W. Eddy, Supervisor, Service Training, State Department of Education, Box 2219, Hartford, Conn.

May 18-21—IOWA FIRE SCHOOL. Annual meeting, Exhibit Hall, Iowa State College, Ames, Iowa. Supervisor Firemanship Training, Mark Brosier, Engineering Extension Service, 110 Marston Hall, Ames, Iowa.

May 21-22—PUMP SCHOOL. To be held at the University of Maryland. For information, contact Robert C. Byrus, Director, Fire Service Extension, Fire Service Building, University of Maryland, College Park, Md.

May 22-23—NAUMEE VALLEY FREE FIRE SCHOOL. Annual meeting, Napoleon, Ohio. For information contact Earl Campbell, Box 164, Napoleon, Ohio.

May 22-23—OHIO REGIONAL SCHOOL, Orrville, Ohio. Sponsored by local county firemen's association and Ohio State Department of Trade and Industrial Education. Director, Walter R. Banning, 606 4th Street NW, New Philadelphia, Ohio.

May 23—NEBRASKA REGIONAL FIRE SCHOOL, North Bend, Neb. Secretary, Russell D. Salak, P. O. Box 312, Schuyler Neb.; School Director, Otto B. Johannes, Columbus, Neb.

May 24-26—EASTERN ASSOCIATION OF FIRE CHIEFS. Annual meeting, Elmira, N. Y. Secretary, Chief Edwin C. Clark, Box 271, Wayne, Pa.

May 28-29—PUMP SCHOOL. To be held at the University of Maryland. For information, contact Robert C. Byrus, Director, Fire Service Extension, Fire Service Building, University of Maryland, College Park, Md.

June 4-5—PUMP SCHOOL. To be held at the University of Maryland. For information, contact Robert C. Byrus, Director, Fire Service Extension, Fire Service Building, University of Maryland, College Park, Md.

June 6—NEBRASKA REGIONAL FIRE SCHOOL. Bloomfield, Neb. Secretary, Russell D. Salak, P. O. Box 312, Schuyler, Neb.; School Director, Otto B. Johannes, Columbus, Neb.

June 6-8—NEW YORK STATE ASSOCIATION OF FIRE CHIEFS. Annual meeting, Hotel Martinique, New York, N. Y. Secretary-Treasurer, Ward A. Bohner, Fire Coordinator, Oneida County, Fire Headquarters, Utica, N. Y.

June 6-9—OREGON STATE FIRE CHIEFS' ASSOCIATION. Annual meeting, Baker, Ore. For information, contact Chief H. B. Damon, Fire Headquarters, Baker, Ore.

June 7-9 — NEW MEXICO STATE FIRE SCHOOL AND CONVENTION. Annual meeting, Truth or Consequences, N. M. Director, Clyde Cole, Chief of the Fire Department, Truth or Consequences, N. M.

June 7-10—SOUTHEASTERN ASSOCIATION OF FIRE CHIEFS. Annual meeting, Charlotte, N.C. Secretary-Treasurer, Chief G. A. Mitchell, Fire Headquarters, Opelika, Ala.

June 8-10—KENTUCKY FIRE SCHOOL. Annual meeting, University of Kentucky. Chairman: John L. Thompson, Assistant Manager, Kentucky Inspection Bureau, 940 Starks Building, Louisville, Ky.

June 8-12—COLORADO STATE FIRE SCHOOL AND CONVENTION. Annual meeting, Glenwood Springs, Colo. For information, contact E. W. Crawford, State Fire Instructor, 210 State Office Building, Denver 2, Colo.

June 11—FLORIDA STATE FIRE COLLEGE. Second of four sessions, Ocala, Fla. Director, W. H. Barnett, Superintendent, Florida State Fire College, P. O. Box 785, Ocala, Fla.

June 11-12—PUMP SCHOOL. To be held at the University of Maryland. For information, contact Robert C. Byrus, Director, Fire Service Extension, Fire Service Building, University of Maryland, College Park, Md.

June 12-13—OHIO REGIONAL SCHOOL, Canfield, Ohio. Sponsored by local county firemen's association and Ohio State Department of Trade and Industrial Education. Director, Walter R. Banning, 606 4th Street NW, New Philadelphia, Ohio.

June 13 — NEBRASKA REGIONAL FIRE SCHOOL. Gordon, Neb. Secretary, Russell D. Salak, P. O. Box 312, Schuyler, Neb.; School Director, Otto B. Johannes, Columbus, Neb.

June 14-18—SOUTH DAKOTA FIRE SCHOOL. Annual meeting, Hot Springs, S. D. Secretary, Robert W. Hanigan, Box 423, Pierre, S. D.

June 15-18—MICHIGAN FIRE COLLEGE. Annual meeting, University of Michigan, Ann Arbor, Mich. Director, M. D. Whale, Supervisor Public Service Training, P. O. Box 928, Lansing, Mich.

Convention Dates

June 16—NORTHWESTERN OHIO VOLUNTEER FIREMEN'S ASSOCIATION. Annual meeting, Ada, Ohio. Secretary, Earl Campbell, Box 164, Napoleon, Ohio.

June 17-19—HUDSON VALLEY VOLUNTEER FIREMEN'S ASSOCATION. Annual meeting, Haverstraw, N. Y. Secretary, Charles M. Fales, 92 Clove Avenue, Haverstraw, N. Y.

June 18-19—PUMP SCHOOL. To be held at the University of Maryland. For information, contact Robert C. Byrus, Director, Fire Service Extension, Fire Service Building, University of Maryland, College Park, Md.

June 20 — NEBRASKA REGIONAL FIRE SCHOOL. Chappell, Neb. Secretary, Russell D. Salak, P. O. Box 312, Schuyler, Neb.; School Director, Otto B. Johannes, Columbus, Neb.

June 21-23—MISSOURI VALLEY ASSOCIATION OF FIRE CHIEFS. Annual meeting, Colorado Springs, Colo. Secretary-Treasurer, Chief Ray Tiller, 319 East 5th Street, Waterloo, Iowa.

June 21-24—NEW ENGLAND ASSOCIATION OF FIRE CHIEFS. Annual meeting, The Wentworth by the Sea, Portsmouth, N. H. Secretary, John W. O'Hearn, 206 Mt. Auburn Street, Watertown 72, Mass.

June 21-24—ILLINOIS FIRE SCHOOL. Annual meeting, Gregory Hall University of Illinois, Champaign, Ill. Registrar, Chief Roy W. Alsip, Box 8, Champaign, Ill.

June 27 — NEBRASKA REGIONAL FIRE SCHOOL. Cambridge, Neb. Secretary, Russell D. Salak, P. O. Box 312, Schuyler, Neb. School Director, Otto B. Johannes, Columbus, Neb.

July 10-11—OHIO REGIONAL FIRE SCHOOL, Lyndhurst, Ohio. Sponsored by local county firemen's association and Ohio State Department of Trade and Industrial Education. Director, Walter R. Banning, 606 4th Street NW, New Philadalphia, Ohio.

July 11-16 — TEXAS FIREMEN'S TRAINING SCHOOL. Annual meeting, Texas A. & M. College, College Station, Tex. Director, H. R. Brayton, Engineering Extension, Texas A. & M. College, College Station, Tex.

July 13-16—MICHIGAN STATE FIRE CHIEFS ASSOCIATION. Annual meeting, Ishpeming, Mich. Secretary, Chief Harry L. Ridout, Muskegon Heights, Mich.

July 15-17—CENTRAL NEW YORK FIREMEN'S ASSOCIATION. Annual meeting, Watkins Glen, N. Y. General Chairman, Jack H. Irish, Jefferson Hotel, Watkins Glen, N. Y.

July 19—FLORIDA STATE FIRE COLLEGE. Third of four sessions, Ocala, Fla. Director, W. H. Barnett, Superintendent, Florida State Fire College, P. O. Box 785, Ocala, Fla.

July 19-22—SHORT COURSE FOR FIREMEN. Annual meeting, Dover, Dela. Director, Frank M. Forstburg, Delaware State Board for Vocational Education, 511 W. 8th Street, Wilmington, Dela.

July 19-23 — WEST VIRGINIA STATE FIRE SCHOOL. Annual meeting, Morgantown, W. Va. Director, R. E. Hanna, Jr., Supervisor, Fire Service Extension Schools, West Virginia University, Morgantown, W. Va.

July 21-24 — WASHINGTON STATE FIRE SCHOOL. Annual meeting, Tacoma, Wash. Director, J. R. Cook, Assistant Supervisor State Board for Vocational Education N223, 1712 Harvard Avenue, Seattle, Wash.

July 23-24—EASTERN ONTARIO FIREMEN'S ASSOCIATION. Annual meeting and International Firemen's Day, Gananoque, Ont. Secretary-Treasurer, Gerald F. Hampton, Gananoque, Ont.

July 30-Aug. 2—FIREMEN'S ASSOCIATION OF ONTARIO. Annual meeting, Milton, Ont. Secretary, E. O. McNeely, 141 Brownville Avenue, Toronto 9, Ont.

Aug. 2-6 — PENNSYLVANIA FIRE SCHOOL. Annual meeting, Lewistown, Pa. Director, Edgar A. Spotz, Adviser, Fire Service Training, Box 911, Harrisburg, Pa.

Aug. 9-14—INTERNATIONAL ASSOCIATION OF FIRE FIGHTERS. Annual meeting, Miami, Fla. Secretary-Treasurer, George J. Richardson, A. F. of L. Building, Washington 1, D. C.

Aug. 16-18—UNIVERSITY OF WISCONSIN. Annual meeting, Madison, Wis. Director, J. J. Lichty, Coordinator, Business Institutes, Box 2098, Madison, Wis.

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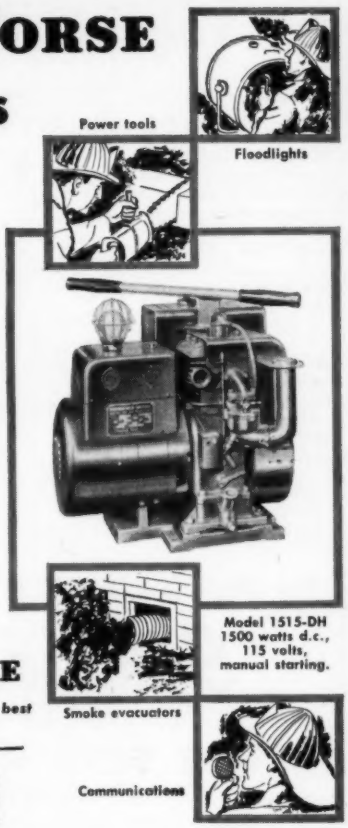

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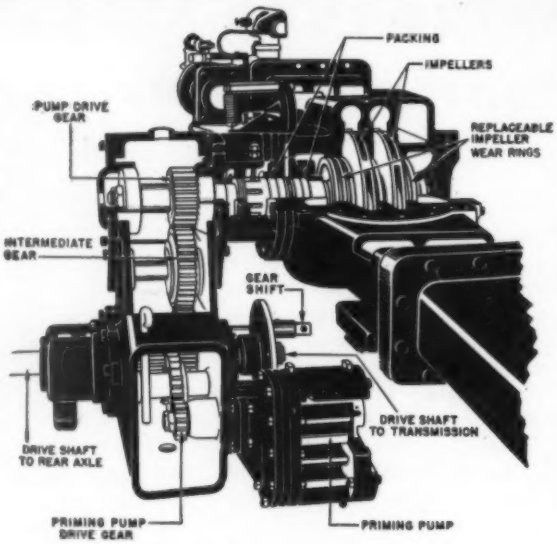

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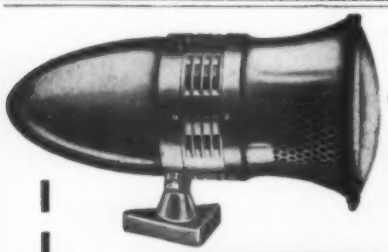

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Convention Dates

Aug. 16-19—CANADIAN ASSOCIATION OF FIRE CHIEFS. Annual meeting, Saskatoon, Sask. Secretary-Treasurer, Allan H. Clark, Chief of Fire Department, Lakefield, Ont.

August 20—FLORIDA STATE FIRE COLLEGE. Fourth of four sessions, Ocala, Fla. Director, W. H. Barnett, Superintendent, Florida State Fire College, P. O. Box 785, Ocala, Fla.

Aug. 23-26—PACIFIC COAST INTER-MOUNTAIN ASSOCIATION OF FIRE CHIEFS. Annual meeting, Long Beach, Cal. Secretary-Treasurer, Jay W. Stevens, Merchants Exchange Building, San Francisco, Cal.

Aug. 23-27—TENNESSEE STATE FIRE SERVICE SCHOOL. Annual meeting, Middle Tennessee State College, Murfreesboro, Tenn. Director, H. S. Elkins, W. A. Seeley, Fire Department Instructors, 215 Chestnut Street, Chattanooga, Tenn.

Aug. 25-28—MONTANA STATE FIREMEN'S SCHOOL. Annual meeting, Polson, Mont. Director, Clayton Brown, Chief of the Fire Department, Polson, Mont.

Sept. 7-11—OHIO STATE FIRE SCHOOL. Annual meeting, Ohio State University, Columbus, Ohio. Director, Dr. Henry Walker, Ohio State University, with Wayne Jeckins, Chief, Fire Prevention Bureau, State Fire Marshal's Office, Columbus, Ohio.

Sept. 7-10—MARYLAND SHORT COURSE FOR FIREMEN. Annual meeting, University of Maryland. For information, contact Robert C. Byrus, Director, Fire Service Extension, Fire Service Building, University of Maryland, College Park, Md.

Sept. 11-12 (tentative)—SOUTHERN WISCONSIN AND NORTHERN ILLINOIS FIRE SCHOOL. Director, Norris T. Ames, Insurance Building, Madison, Wis.

Sept. 13-17—VIRGINIA STATE FIRE SCHOOL. Annual meeting, Norfolk, Va. Director, Clay A. Easterly, Fire Marshal, P. O. Box 112, Martinsville, Va.

Sept. 14-17—INDIANA STATE FIRE SCHOOL. Annual meeting, Purdue University, Lafayette, Ind. Director, Francis W. Hartman, Chief of Fire Training, Purdue University, Building FWA7, West Lafayette, Ind.

Sept. 17-18—JEFFERSON COUNTY VOLUNTEER FIREMEN'S ASSOCIATION. Annual convention and tournament, Deferiet, N. Y. Secretary, Jack Farrell, 418 Merrick Street, Clayton, N. Y.

Oct. 12-14—ILLINOIS FIREMEN'S ASSOCIATION. Annual meeting, Evanston, Ill. Secretary, R. W. Alsip, P. O. Box 8, Champaign, Ill.

Oct. 12-15—KANSAS STATE FIRE SCHOOL. Annual meeting, University of Kansas, Hutchinson, Kans. Director, Georald Pearson, Director, University of Kansas Extension Classes, 111 Fraser Hall, Lawrence, Kans.

Oct. 14-16—ARIZONA STATE FIRE TRAINING SCHOOL. Annual meeting, Phoenix, Ariz. Director: Harry C. Bigglestone, District Engineer, Board of Fire Underwriters of the Pacific, Luhrs Building, Phoenix, Ariz.

Oct. 16—GREAT LAKES ASSOCIATION OF FIRE CHIEFS. Annual meeting, Rice Hotel, Houston, Tex. Secretary-Treasurer, Chief Charles A. Delaney, 1418 Warren Road, Lakewood 7, Ohio.

Oct. 18-20—NEBRASKA STATE VOLUNTEER FIREMEN'S ASSOCIATION. Annual meeting, Lincoln, Neb. Secretary-Treasurer, Russell D. Salak, P. O. Box 312, Schuyler, Neb.

Oct. 18-21—INTERNATIONAL ASSOCIATION OF FIRE CHIEFS. Annual meeting Houston, Tex. Secretary-Treasurer, Chief Daniel B. Tierney, 8 Robbins Road, Arlington 74, Mass.

Another Fatal Oxygen Fire

An unexplained fire in an oxygen tent at Albany Hospital, Albany, N. Y., on the night of Feb. 15th, burned two patients, one of whom died the next day.

An autopsy was ordered into the death of Thos. F. McCoy, 71, the patient who was being treated for a critical heart condition. Although he suffered second-degree burns, he was reported not to be seriously injured. The patient in an adjoining bed suffered slight burns.

No reason was advanced for the cause of the flareup.

News of the Manufacturers

(*Continued from page 232*)

out from its position under the dash of car or truck for servicing.

The FT-158 transmitter and receiver is 6½ inches high, 16 inches wide and 16½ inches long. It resembles the FT-153-10 in design, but is a more powerful mobile unit.

The FT-156, FT-158 with the FT-153-10 mobile radio communication units, represent the first of the new line of Federal equipment suited for fire department vehicles.

New Production Manager at Waterous

Appointment of George E. Evans as Production Manager for the Waterous Company has been announced by Fred A. Waterous, president of the St. Paul firm.

A native of Philadelphia, Evans attended Drexel Institute of Technology, and Westinghouse Tech., graduating as top man in his class. After fourteen years with the Westinghouse Corporation in the Steam Turbine Division, he broadened his manufacturing experience by accepting responsible positions with the Standard Steel Corporation and Emerson Electric Company.

George E. Evans

Before his St. Paul appointment, Evans was General Superintendent at Montgomery Ward's Springfield (Illinois) plant where such products as water pumps, cream separators, hammermills, etc. are manufactured.

Evans succeeds A. C. Wedge, who left the Waterous Company to join the Chicago office of Booz, Allen & Hamilton, Management Consultants.

Waterous is one of the country's largest manufacturers of fire pumps and a major builder of heavy duty industrial pumps and fire hydrants, and process pumps for the chemical and food industries.

Ansul Announces Fire School Dates

A record number of eleven industrial Fire Training Schools, the first starting May 24 and the last starting September 20, will be held during 1954 on the fire test field of the Ansul Chemical Company at Marinette, Wis., the company announces.

Each school will last three days, the starting dates being May 24; June 14, 21, 28; July 19, 26; August 16, 23, 30; September 13, 20.

The school is held for the purpose of training plant fire marshals, safety directors, fire brigade leaders and military and municipal fire suppression of-

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BUY ALUMINUM LADDERS

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BUY ALCO-LITE

The ideal ladder for fighting fires is one that is lightweight, strong, durable, fireproof, rust-proof, and warp-proof. Aluminum fire ladders have won wide acceptance because they fulfill these requirements.

But not all aluminum ladders are the same. ALCO-LITE Aluminum Ladders incorporate patented features of construction that have never been equalled. That is why we say: for the best fire ladders, buy aluminum ladders—for the best aluminum ladders, buy ALCO-LITE.

Write for folder containing complete information on our line of Light and Heavy Duty Fire Ladders

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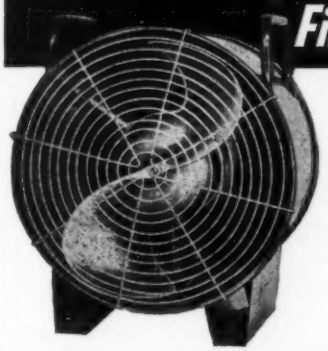

● The Super Vacuum Smoke ejector is a powerful portable fan unit designed especially for fire departments. This design is a new and revolutionary principle in moving air. Several thousand Super Vacuum Smoke ejectors are in use throughout the United States and Canada. Controlled ventilation is new and very necessary in fire fighting. Years of service and satisfied users are your best guarantee for any merchandise.

THE HEART OF THE SUPER VACUUM

● The secret of Super Vacuum is the patented fan blade. Conventional fans chop the air and push it back. Whereas the Super Vacuum fan blade is a perfect spiral air screw which creates a partial vacuum, suction is created over the entire face of the blade and the air or smoke is discharged in a high velocity spiral. There are no dead spots—that is why Super Vacuum outperforms other fans twice its size.

Write for Additional Information or Contact Your Local Fire Equipment Dealer

MANUFACTURED EXCLUSIVELY BY
Super Vacuum MANUFACTURING CO.
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At New Haven Fire School, Battalion Chief and 'first-in' men use Pocketaire.

Sure Escape for 'First-In' Men with POCKETAIRE

means you can concentrate on fire attack.

"We like Pocketaire because it goes on the fireman instead of on the truck," say Chief Collins of New Haven, Conn., and Battalion Chief Flannigan, head of the famous New Haven Fire School, where Pocketaire was tested in 1953.

Smoke and fumes — the fireman's deadliest enemies — need not be feared when the 'first-in' men are equipped with midget-sized Pocketaire — four pounds of oxygen breathing apparatus that gives time for investigation and ventilation plus a second cylinder which gives 5 minutes for escape.

POCKETAIRE is *first* to combine SAFETY with
- **light weight—4½ lbs.**
- **small size**
- **cost under $100**
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108 Gulf St., Milford, Conn.

Please send me your booklet on Pocketaire Breathing Equipment.

Name _____

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A few distributorships are still available. Write for details.

ficers in the latest techniques of extinguishing fires with dry chemicals.

Last year, a record number of 225 persons attended nine schools, the largest proportion of enrollees coming from the metal fabrication, chemical, petroleum, gas, steel, electrical, railroad, aviation, paper, transport, food and mine industries. There also were a considerable number of representatives of municipal fire departments and the U.S. and Canadian military services.

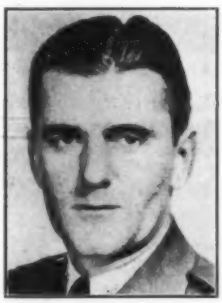
Registration is limited to 25 men for each school, with reservations accepted on a first-come, first-served basis. Ansul provides all instruction and use of equipment free of charge, the students paying only for their transportation and living expenses while at Marinette.

Classes are held on the Ansul Company's eight-acre fire test field. Students are taught to use hand, wheeled and large stationary units of dry chemical equipment against flammable liquid and propane gas fires of all sizes and types.

Other types of extinguishing agents also are available in case any student has a special fire problem.

Wm. Cole V.P. and General Manager of Fabric

William Cole, sales manager of Fabric Fire Hose Co., for the past three years has been named vice president and general manager, it was announced on Feb. 8.



William Cole

A graduate of Dartmouth, Mr. Cole left the company to serve with the U.S. Navy in World War II, and rejoined Fabric in 1950.

Fabric Fire Hose, located in Sandy Hook, Conn., is one of the oldest manufacturers of fire department hose in the country. It is now a subsidiary of the United States Rubber Co., affiliated with the mechanical goods division under Ernest G. Brown, vice president and general manager.

New Transformer for Emergency Vehicles

A three-phase transformer, newly developed by The Leece-Neville Company, Cleveland, now makes it possible to obtain up to 1200 watts of auxiliary 110 volt d.c. power to operate tools and appliances in automotive vehicles equipped with the Leece-Neville Alternator system in place of conventional d.c. generators.

The new transformer takes full advantage of the high power output of the alternator for such purposes as operating ⅝" electric drills, small chain saws, pneumatic tools, electric blankets, artifical respirators, traffic signals, flood lights, etc., direct from fire or police emergency vehicles.

Unlike the presently available 250 watt 110 v. a.c. transformer (which delivers a frequency equal to 1/10th alternator r.p.m.), the new unit's output is independent of motor speed.

The new transformer (along with a companion 110 v. selenium rectifier) is operated in parallel with the standard rectifier and voltage regulator, leaving undisturbed operation of the alternator for its primary purposes, that of supplying 6 v. d.c. power for battery charging and vehicle operation.

Two models of the new transformer are available: for 6 volt systems, the 1013-T unit is rated at 800 watts; for 12 volt systems, the 1012-T unit has an output of 1200 watts.

Fire Station Doors

"Electric Doorman" is a new eight-page bulletin-catalog issued by Electric Power Door Company, Inc., 2127 East Lake Street, Minneapolis 7, Minn. It includes complete specifications, applications and information on folding, swinging, sliding, overhead and craneway doors for fire stations and other applications. Blue prints, erection diagrams, selection tables and construction features are shown along with necessary hardware and recommended control systems. It also describes the company's engineering service available to industrial, commercial and residential users of doors and gates.

Catalog No. 1000 may be obtained by writing directly to the company.

New Home Fire Alarm

A home and industrial fire alarm manufactured at Summit, N.J. received the seal of approval of Underwriters' Laboratories, Inc., on Feb. 18.

The new alarm consists of a cylinder of Freon gas which is released by temperature through a horn, creating a shrill sound which tests prove can be heard 500 feet from the alarm's location.

C. E. Graham Reeves, president of Fyr-Larm Co., Inc., manufacturer of the device, claims it is the first low-cost, fully automatic alarm available for home use.

John Hegarty Joins Dictaphone

John F. Hegarty has been appointed a sales engineer for Dictaphone Corporation. Formerly of Westinghouse Elec-

John F. Hegarty

tric Stairway Division, Mr. Hegarty will specialize in Dictaphone's recording machine business, including the fire service. He is a graduate of Manhattan College and a Navy veteran.

Punton Named Director of Engineering

Appointment of Charles W. Punton as director of engineering of Mine Safety Appliances Company, Pittsburgh, Pa., has just been announced by George H. Deike, Jr., vice-president.

Mr. Punton has been with the company since 1929. He started as an industrial engineer and, in 1941, was named works manager. A graduate of the University of Kansas, Mr. Punton also received M.S. and I.E. degrees from the University of Pittsburgh.

Charles W. Punton

A member of the Pittsburgh Chapter, Society for the Advancement of Management, Mr. Punton recently was one of three men nominated by the group for its annual Human Relations Award in recognition of their work for the Pennsylvania Association for the Blind.

Mr. Punton also is a member of the American Society of Mechanical Engineers, American Society of Safety Engineers, Veterans of Safety, Delta Tau Delta Fraternity and the Pittsburgh Athletic Association.

Marschalk to Homelite's Chicago Office

R. J. "Ray" Marschalk has been appointed Chicago District Sales Manager for the Homelite Corporation, it was announced recently by Nelson Thompson, Homelite's Vice President and Sales Manager. In his new position, with headquarters at 2409 Lake Street, Melrose Park, Illinois, Mr. Marschalk will be responsible for the operation of Homelite's Chicago District Sales office and for the supervision of Homelite field representatives in Milwaukee, Wisconsin, Bloomfield, Illinois and Melrose Park, Illinois.

At the same time, Mr. Thompson announced the appointment of R. S. "Bob" Kennedy as Manager of Homelite's Melrose Park Branch Office where he will take charge of all local sales in the Chicago area. Mr. Kennedy was formerly Homelite's Branch Manager at Fresno, California.

Air Force Contract to Stop-Fire, Inc.

Stop-Fire, Inc., fire extinguisher manufacturer, Brooklyn, N. Y., has been awarded a contract by the U. S. Air Force for the development of a new type of fire extinguisher for air base ground operations.

The new fire extinguisher will be of the wheeled-type, 10 and 20 gallon capacities, but will employ stored pressure for extinguisher operation and

Continued on page 273)

NEW! General's Complete Equipment Catalog

for 1954 is **NOW READY** for mailing

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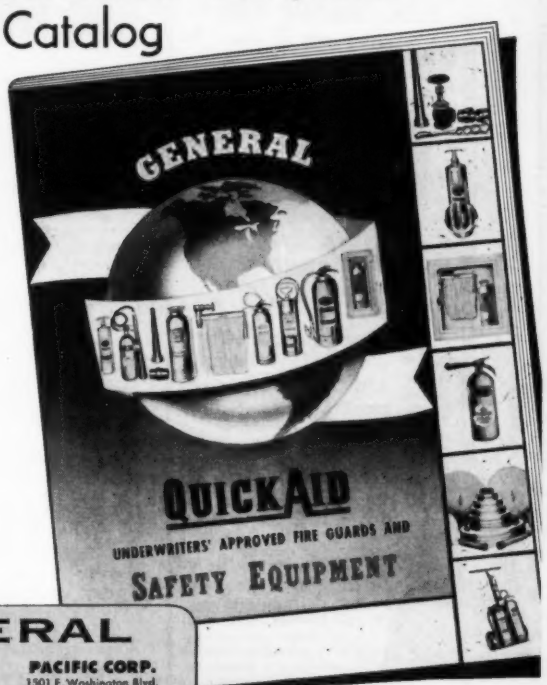

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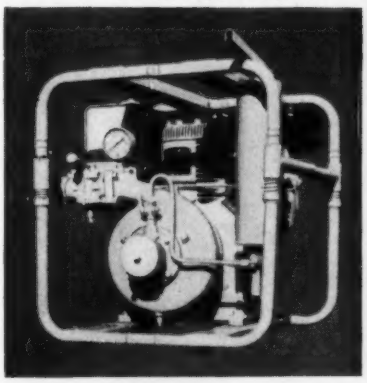
Fight Brush Fires From Moving Truck with a Hale Type FZZ PORTABLE PUMPING UNIT!

Picture below shows fire-fighter handling stream from a Hale Type FZZ Portable Pumping Unit mounted on a moving truck. An FZZ can be mounted permanently on truck or carried as a portable unit for pumping into or *from* booster tank. This portable arrangement is extremely useful both for fighting brush, field or forest fires while in motion; or for pumping from pond, stream or well direct.

An FZZ will supply from draft, 60 U. S. Gallons per minute at 90 lbs. pump pressure and up to 150 U. S. Gallons per minute at 30 lbs. It can supply two capable fire streams through 1½" lines using tips up to ⅞".

A frame-mounted FZZ (with carrying handles turned in) is pictured at right. Also available mounted on two wheels or on rubber-cushioned steel channels. Note: Discharge Adapter can be supplied for use with 2½-inch hose.

**Write today for new FZZ Folder.*
Let us know if you want a demonstration.



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FIRE FIGHTING TOOL

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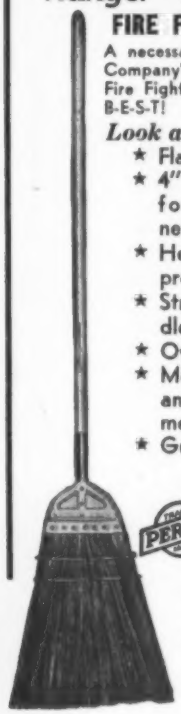
- ★ Guaranteed



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ST. JOSEPH - - MISSOURI

Short Cuts and Gadgets

UN-"FINISHED" BUSINESS?

Yet to be heard from is the fire department that does not rhapsodize over the high-luster finish of its fire apparatus. And let no skeptic believe that there no longer dwells within the bosom of the modern fire fighter, particularly the volunteer, the yearning for the spit'n-polish-finish and the gold trim that glorified the rigs of the days of yesteryear.

True, there is less rococo and fewer doodads and hand-painted panels than in those days of the early vamps, but albeit his rolling stock may be less ornate, the average fire fighter of today wants to have his rigs right up there in the forefront, when it comes to the "finish."

All of which is to emphasize the fact that the much-to-be-admired glossy, high-luster finish adorning today's fire apparatus must receive the right sort of care and treatment if it is to retain its "complexion." And that doesn't merely mean good grooming with duster and chamois. There must be maintenance, with a capital "M."

True, chromium has taken the place of plain brass, and the sprayed-baked-on, super-duper finish on non-shrinking, non-cracking metal, has replaced the old painted and varnished wooden bodies. But there still remains the need for "committee work," even though crews among paid departments may be smaller, and the business of rolling to and from, and working at fires, may be on the increase.

Maintenance is a problem that grows more pressing daily. Apparatus costs considerably more today; in most cities it travels more miles, and works more hours at fires than ever before. It is exposed to greater traffic abuses, more careless drivers, than ever before. The result is a greater need of systematic, painstaking upkeep and preventive maintenance than has heretofore existed in the fire service.

Hardest hit are the smaller paid, and the volunteer organizations, lacking shop and other maintenance facilities, where not only professional maintenance personnel, but funds are limited.

These departments may be interested in a plan which is finding favor with some of the more progressive volunteer and part-paid departments. This plan, its proponents maintain, is simple and inexpensive to execute and, if followed, costly repainting due to neglect, with consequent removal of apparatus from active service for indeterminate periods, would never be necessary.

The plan, in general, calls for the customary inspection and cleaning of body, tires, rims, etc., following each response, as is usually included in the rules and regulations of every progressive fire department. This may be said to be standard procedure. But this is not all.

According to this recommended formula, the apparatus must be gone over from front bumper to rear step at least once every year by an automotive finisher, or painter who knows his stuff, and every scratch and dent removed.

The same treatment must be given the gold leafing and lettering. Any good sign painter can qualify for this work, and do the job right in the firehouse, with the apparatus remaining in service.

According to advocates of the plan, the purpose of the periodic touch-ups is to prevent the accumulation of scratches and mars or disfigurements which are likely to be noticeable if allowed to accumulate and which are removed simultaneously, in a major operation. By effacing them at least yearly, the new paint has a better chance to age and blend in with the old paint on the vehicle before more is added. When seasoned and polished after a few months the repair becomes unnoticeable.

It is also strongly recommended that the apparatus finish be simonized at least once, and preferably twice a year. This is to preserve the lustre so the new paint will better match the old, and in order to improve the protective coating on the rig.

Wax, in addition to preserving the lustre, helps prevent minor scratches and blemishes, and too, the cleaning problem assumes less importance when the finish is protected by wax.

In order to insure the successful outcome of this maintenance program it must become a custom, and a matter of ritual, something not so easy to accomplish in the full volunteer department. To make it so, a number of departments write it into the regulations. One or two even employ special personnel for this periodic face-lifting.

*Acknowledgment is paid to Bob Roever, Hempstead, L. I., for information upon which this report is based.

* * *

DEMONSTRATING THE CANISTER

Instructor William Berry of the Rockville, Md., Fire Department, used a hacksaw to cut open a used all-service gas mask canister so that the students of his class could observe the contents.

According to Bob Byrus, writing in the University of Maryland's "Fire Service Bulletin," this proved to be an excellent method of bringing home the importance of wearing gas masks, since the men could appreciate all that is involved in filtering out harmful gases so firemen can breathe safe air. The instructor at the same time stressed the limitations of masks of this type.

* * *

"TELL-TALE" FOR FIRE FIGHTERS

The daily press contains all-too-many accounts of loss of life by fire involving invalids and elderly bedridden or other helpless persons who, because of their infirmities, were unable to escape when fire struck. And these victims are by no means limited to nursing, rest and convalescent homes. The great majority of such tragedies occur in dwellings.

With this preamble we learn, through Bob Byrus of The University of Maryland, of an enterprise being sponsored by the Silver Spring Volunteer Fire Department, of Silver Spring, Md., that is worthy of mention.

This Department is canvassing the entire community; every home where an invalid or infirm person is housed is recorded, and the occupancy is furnished with an identifying sticker. This consists of a letter "I" on a luminous "scotch light" background.

The home owners are instructed to place this symbol near the front door in a location where it can readily be seen. The department looks for this identifying symbol whenever it is called to an emergency in the occupancy. The presence of the symbol permits firemen to undertake the proper type of operation much more rapidly, with greater assurance of satisfactory outcome than where department personnel were in ignorance of the condition of the occupants.

* * *

INGENIOUS HOSE CLAMP

From Charles Howath, Eng. 1, Company No. 2, Hillside, N. J., comes the following communication (and picture): "Enclosed you will find photograph of a structural steel frame bracket which, when used with a 5-ton Walker hydraulic jack, becomes a hydraulic hose clamp.

"It was made from scrap steel, with the frame being a 5-in. structural steel channel and the rest from scrap flat stock. Its weight is approximately 32 lbs. when in operation.

Hose clamp in position.

"Storage is no problem because the over-all measurements are 20 in. x 5 in.. x 8 in. The device can be made in any fire department repair shop that has an electric welding machine and oxy-acetylene burning torch. This particular one was made by me, a rookie fireman, during my off-duty time in a shop where I had full use of the above-mentioned equipment."

Thank you Fireman Howath.

* * *

EXTINGUISHER DATE TAGS

Frequently the tags hung on extinguishers to show dates of recharging become soiled and hard to read. To avoid this difficulty, the Fred'k H. Levey Co., Inc., of New York, punch the date on new tags each time, just as shipping stencils are cut.

Factory Mutual Record.

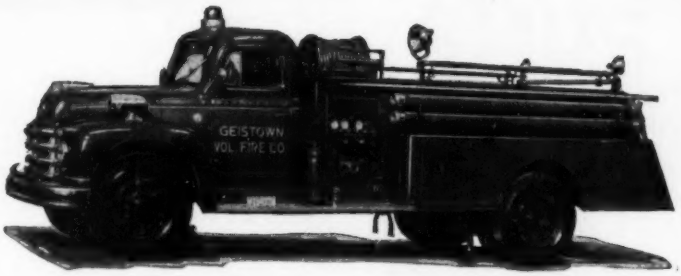
P.S. Seems like this might also help discourage tampering with dates. Ed.

* * *

In sprinklered buildings, where a Fox-lock has to be forced, the aerial ladder within its height limits can prove very effective to gain entrance. Water damage is apt to be extensive if you wait to force a Fox-lock.

(From WNYF—Submitted by Stephen P. O'Reilly, Lieutenant, Eng. 91)

Champion Fire Apparatus



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Or this Darley Apparatus is also available in Underwriter capacities of 600 GPM and 500 GPM. Modern commercial truck motors have adequate power for either 750, 600 or 500 GPM pumps.

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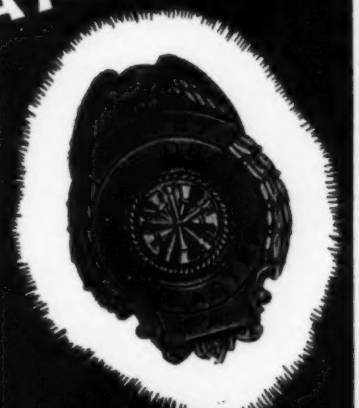

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Leather sheathed for carrying safety . . . strap it on, it's always ready! 1½ lbs. of fast-working, keen-edged fighting tool with 15-inch handle for close-quarters work. It's handsome, too . . . brightly polished and trimmed in Fire Chief Red with Gold Bronze. The "Little Fireman" is a genuine MANN tool in every respect. Order from your fire equipment dealer.

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The WATCH DESK

Overhauling the firemanic news of the day

by ROI B. WOOLLEY

—In Line of Duty

In Lima, Ohio, on January 31st, a 44-year-old veteran fire fighter lost his life while fighting a blaze in a three-story building housing a sporting goods store in the business district.

He was Captain Cloyd R. Webb, who was pulled from the flaming first floor while his young son Alfred, 22, also a member of the Fire Department, was helping others subdue the fire. Death was reported caused by asphyxiation.

About a dozen persons living in the brick structure escaped safely after flames exploded gunpowder in the basement. Firemen carried some occupants down ladders to safety. Fire Chief Walter Hydaker estimated the 5-hour-fire caused loss of $125,000.

In Troy, N. Y., Thomas J. Evers, 42-year-old Troy fireman died Feb. 2nd, several hours after he had struck his head in a fall during a minor garage fire.

Evers, off-duty at the time of the fire, was aiding brother firemen when he was injured.

On Feb. 5th Deputy Fire Chief Nicholas J. Coppola of the Rahway, N. J., Fire Department died of a heart attack while fighting a small fire in the old Empire Theatre, Rahway.

The building, long boarded up, was filled with smoke when the chief led a crew into it with a hose line.

Coppola, who was 46 years old, is survived by his widow and a brother, Anthony Coppola, a captain in the fire department.

* * *

Vamps "Burned" Over Police Tactics

Volunteer firemen and town policemen have been in a hassle in Westport, Conn., because, the vamps charge, the lure of a good fire has proved irresistible to the cops, and this is sometimes more of a hindrance than a help.

Thus it came about that, last December, some forty members of the five volunteer fire companies that constitute the Westport Fire Department, representing a quorum, listened to Robert T. Baldwin Jr., local real estate man present a resolution at central fire headquarters directed to the Selectmen. It read:

"That the police be restricted to, and directed to attend to, traffic duty in the future and not to interfere with or engage in the fighting of fires after the arrival of the Fire Department."

The resolution was adopted by a unanimous vote, after a twenty-minute discussion of new business. The story, though, was an old one to Westport's fire buffs. Mr. Baldwin asserted that at a fire about a month before presentation of the resolution, in the home of F. T. Bedford of Beachside Avenue, a policeman, absorbed in the spectacle, ordered a fireman to untangle the traffic.

"Our fire apparatus is often followed by a long string of cars and there's plenty of congestion" continued Mr. Baldwin. "The policemen ought to take care of this problem and let the firemen put out the fires."

Police Chief John A. Dolan reportedly has been a little hurt over the resolution. "Why," he said, "often a policeman is at the scene of a fire before the firemen. What's he to do? Stand and let it burn or help people? The policeman takes orders from the senior fireman at every fire, where, perhaps some other things may be more important than traffic. These volunteer firemen get uppity from time to time."

Seems to the editor that this incident has a sort of bearing on the much discussed problem of the fire services merging with police!

* * *

Truck Troubles—House Burns!

Seems like there are several morals to be learned from this item contributed by Dr. N. V. Cooper of Westbury, L. I. It has to do with a fire last January which burned a bungalow to the ground at Miller Place, L. I., when the Miller Place Fire Department's one "active" truck wouldn't start.

The department's other piece of fire apparatus is "deactivated" for the winter for lack of a proper place to house it.

It is related that eventually the vamps got the balky truck to start, but meanwhile Fire Chief Robert Stevenot wasted no time calling for reinforcements from Sound Beach and Mount Sinai. The aid came too late to save the dwelling, on North Country Road, near Sylvan Ave., which was "in full blaze" by the time firemen arrived, according to Brookhaven Town Police. Explosion of a gas tank helped speed the flames.

The six units and 75 men that fought the blaze were further handicapped by shortage of water.

Chief Stevenot theorized that an oil heater in the house started the fire although there was talk about Christmas lights being responsible. However, the occupant, Mrs. J. Q. Kuczynski, said the lights had been turned off before she and her daughter left the house for an afternoon walk.

* * *

Hot Off the Tape

In Chippewa Falls, Wis. a night club called "The Flame" burned to the ground. . . . From Danbury, Ct., comes the yarn about a puppy which was trapped in a burning gasoline station and who picked the safest place when he couldn't get out. He dived into a toilet bowl, where he was found after the fire was put out, singed but safe. . . . Little Rock, Ark., Brothers stayed at a respectable distance while fighting a fire in a truck marked with one word: "Explosives." The owner arrived just before the fire was extinguished and explained that the truck was empty. . . . Down in Kingsport, Tenn., officers searching for whiskey in a vacant lot, burned the grass away. In the ashes they found four half-gallon jars and one pint of moonshine. . . . Two bootleggers got their revenge near Asheville, N. C., when they set forest fires, ostensibly, they told authorities, because they were angry at revenue agents raiding stills in the area. . . . A young baby sitter of Griffith, near Ham-

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FIRE DEPT.

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to the fire safely

with this new license plate sign that *stays reflective, day or night!*

These durable, trouble-free "Firefly" signs are heavy aluminum plate with reflective "scotchlited" surface, yet so inexpensive that they should be used on every one of your vehicles.

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mond, Ind., trying to amuse a 5-year-old girl with a fourth of July sparkler, set fire to a house. The sitter managed to rescue the little girl. . . . Donald Brown works at a Fond du Lac, Wis., skating rink. When told his house was on fire, the night of Jan. 21st, last, he ran home and helped his wife carry their five small children to safety but finally collapsed on the second floor of the burning building. Firemen found him and carried him out, then discovered he still had his skates on. . . . The 250-foot, wooden, Worthington's Mill bridge in Bucks County, Pa., longest of the few covered bridges still in use in the country, was destroyed by a fire early on Jan. 28th, caused by a short-circuited electric wire. . . . Bed may be the safest place—for some, but not Odel Newton, 45, of Philadelphia, Pa., who somehow got wedged between a folding bed and the mattress spring. He lay trapped for 12 hours as friends tugged at him. Somebody with sense called the Philadelphia Fire Department and he was quickly unbedded—with a broken arm. . . . Camden, N. J. Fire Captain Edward Micalah has his own opinions about "man's best friend." He spotted a dog marooned on an ice floe in Newton Creek, Camden, and rowed out with other firemen to rescue the animal. When he tried to lure the canine to the side of the boat with some food, the pup snarled, bit his wrist and plunged into the icy water and swam ashore. . . . The papers headed this item: "An Old Flame Remembered" and went on to say that an indistinct message came over the Bellingham, Wash., Fire Department radio from a pumper responding to an alarm of fire on the night of Jan. 16th. "I can't hear you, repeat," the fire alarm dispatcher said. Back came the message: "Will you send someone upstairs to see if we left the coffee pot on!" Ah yes, radio has its attributes—the price of coffee being what it is. . . . In Pittsburgh, Pa., an unidentified person tossed a home-made fire bomb into a station wagon of an employee of Sears, Roebuck & Co., one of six furniture stores involved in a two-month-old strike. The bomb, made from a light bulb filled with an undetermined incendiary material, set the vehicle afire. Firemen confined damage to $40. . . . Harrison Christian, about 55, retired operatic baritone, was killed Jan. 16th in a fire in his apartment in Lynchburg, Va.

* * *

False Alarm Costs Vamp's Life

Stanley Nowakowski, 30-year-old milk truck driver and member of the New Hyde Park, L. I., Fire Department, was injured fatally the night of Feb. 6th, when he fell from a fire truck returning from a false alarm of fire.

Four pieces of apparatus and fifty firemen responded to an alarm turned in from Lakeview and Silvia Roads. According to Fire Chief Wilfred N. Sauve, the call was the third false alarm from that section of the village in the last six months.

Nowakowski was riding the rear step of a pumper, returning to the fire station after investigation had proved the alarm false, when he apparently lost his footing and was thrown off the apparatus as it rounded a curve. He was rushed to Nassau Hospital at Mineola, at 6:45 P.M., suffering from a fractured skull. He died at 11:00 P.M.

An investigation was started by county police and the Nassau County Fire Marshal's Office.

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Through continuous research and in cooperation with fire and safety officials, we have perfected a dependable home fire alarm system. It is a great satisfaction to know that our efforts have been responsible for saving many lives in fires.

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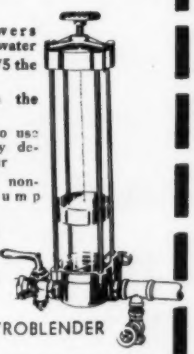

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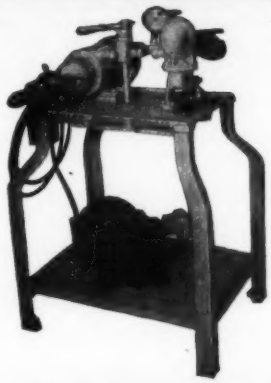
What's Burning

THE following list includes fires of $10,000 loss and over in the United States and Canada for the month of February, 1954.

Month Ending February 28, 1954

Gadsden, Ala.—Morris Hotel heavily damaged.
Jacksonville, Ala.—Women's dormitory at Jacksonville State Teachers College damaged.
Montgomery, Ala.—Planing mill and attached lumber storage shed of Marshall Lumber & Mill Co. damaged.
Little Rock, Ark.—Men's dormitory at Arkansas Baptist College damaged.
Wynne, Ark.—New gymnasium of Wynne High School destroyed. Cigarette.
Blue Lake, Cal.—Arcata Truck and Equipment Co. damaged.
Emeryville, Cal.—Tecumseh Products Corp. destroyed and Albert Wright Screw Machine Products Co. damaged. Baking furnace.
Hayward, Cal.—Hayward electro-plating plant destroyed.
Hermosa Beach, Cal.—Hermosa Beach Hi-Spot restaurant damaged.
Monrovia, Cal.—J. C. Penney Co. store damaged.
Newhall, Cal.—Loven Chemical Co. plant destroyed. Company manufactures plastic molds for Government and private industry.
Riverside, Cal.—YMCA building damaged.
Durango, Colo.—Miller Motor Co., a Pontiac-Cadillac firm, destroyed.
Durango, Colo.—Building in heart of downtown, housing J. & V. Toggery, Partridge Photo Studio and Durango's only bowling alley, destroyed.
Danbury, Conn.—Flying Eagle Bus Co. garage damaged.
Hartford, Conn.—Garage of Fillmore Transportation Co. destroyed. Gasoline explosion.
Hartford, Conn.—Business and apartment building occupied by B. Golden & Sons, restaurant and store equipment company, destroyed.
New London, Conn.—Warehouse of Shafner's Furniture Store damaged.
New Milford, Conn.—Office, shop and storage buildings of A. Saga & Son, general contractors, destroyed.
Dagsboro, Dela.—Feed house and equipment of Brasure Feed Co. destroyed.
Miami, Fla.—Red Top Cab & Baggage Co. destroyed.
Atlanta, Ga.—Main civilian employee restaurant at Atlanta General Depot destroyed.
Dawsonville, Ga.—Hubert Vickers Furniture Co. damaged.
Gainesville, Ga.—Building housing bowling center, heating and plumbing concern and an upstairs finance office, destroyed.
Chicago, Ill.—Warehouse owned and occupied by Canadian Ace Brewing Co. damaged.
Lake Forest, Ill.—Lake Forest vacant mansion destroyed.
Springfield, Ill.—Central Iron & Metal Co. garage building and section of Central Salvage Co. destroyed.
Springfield, Ill.—Dr. Pepper Bottling Co. plant destroyed.
Zion, Ill.—A two-block section of the business district including the Zion Gospel Tabernacle, a radio repair shop, an office building, a furniture store, appliance shop, drug store, plumbing shop, variety store and the department store in which the fire started, damaged.
Indianapolis, Ind.—Terminal of Finchum Trucking Co. destroyed. Oil furnace explosion.
Whiting, Ind.—Paint and plumbing supply company and an adjacent building destroyed.
Des Moines, Ia.—Warehouse and factory building of Boyt Harness Co. destroyed. Firm manufactures saddles, horse blankets, gun cases and aviation safety belts.
Mediapolis, Ia.—Feed mill section of Des Moines County Farm Service Co. elevator destroyed.
Osceola, Ia.—First Christian Church destroyed.
Louisville, Ky.—Administration building of Green River Steel Co. destroyed.
Majestic, Ky.—No. 2 tipple at Majestic Colleries Co. plant destroyed. Arson suspected.
Paducah, Ky.—King Woodall Motor Co. garage destroyed; building housing Heine and Tyler and Ideal Cafe damaged.
Millinocket, Me.—Hickell Block, business and apartment building, damaged.
Rockport, Me.—Tamarack Lodge Hotel destroyed.
Ayer, Mass.—Florian Apartments destroyed.
Boston, Mass.—Gulman Furniture Co. destroyed.
Holyoke, Mass.—Machinery manufacturing plant of J. & W. Jolly, Inc., in South End, destroyed.
Newburyport, Mass.—Washington Block damaged.
Ann Arbor, Mich.—Four stores in University of Michigan campus business district, including Campus Drug Store, Little Skipper children's clothing store, Marmel Korn store, Marti Walker's women's apparel store, Jones reducing salon, Ann Arbor office Michigan League for Planned Parenthood, and six apartments, destroyed; Dasola barber shop, Mast shoe store, Lantern Gardens restaurant, damaged. Defective wiring.
Bayport, Mich.—Bayport High School building destroyed.
Detroit, Mich.—Lloyd A. Fry Roofing Co. destroyed.
Detroit, Mich.—F. Burkart Manufacturing Co.'s warehouse destroyed. Spontaneous ignition. Company manufactures cotton padding for automobile upholstery.
Ithaca, Mich.—Farmers Elevator Co. damaged.
Mt. Pleasant, Mich.—Barn on Rex Morse farm destroyed.
Pontiac, Mich.—Storage building of M. A. Benson Lumber Co. damaged.
Royal Oak, Mich.—Nelson Plumbing Co. building destroyed.
Scottdale, Mich.—Twenty-room home of Woodbridge W. Dickinson, two miles off Highway US-31, destroyed.
Climax, Minn.—Climax High School destroyed.
Jonesboro, Miss.—Brookland Elementary School, 9 miles east, destroyed.
St. Joseph, Mo.—Pickett School, just outside the southeast limits, destroyed.
Billings, Mont.—Rocky Mountain Furniture Co. mill on southwestern outskirts destroyed.
Malta, Mont.—Malta High School damaged.
South Sioux City, Neb.—McMaster grain elevator destroyed.
Hoboken, N. J.—Coat manufacturing plant occupied by Maxine Coat Co. and Kay Novelty Co. damaged.
Lakewood, N. J.—Ten small planes, hangar and machine shop at Ocean County Airport, destroyed.
Philipsburg, N. J.—Three buildings on South Main street, including poultry market, destroyed. Overheated oil burner.
Roselle Park, N. J.—LaPree's Restaurant destroyed.
Vineland, N. J.—Building occupied by Acme Supermarket destroyed.
Woodbridge, N. J.—DuBrow Bros. Furniture Store destroyed.
Albuquerque, N. M.—People's House of Flowers and adjoining People's Juvenile Shop damaged.
Canandaigua, N. Y.—Livestock and grain on Truman Dryer farm, six miles northwest, destroyed.
Canton, N. Y.—Sigma Alpha Epsilon fraternity house at St. Lawrence University destroyed.
Dolgeville, N. Y.—Dolgeville Central School garage destroyed.
Dryden, N. Y.—Classrooms and cafeteria of Dryden Central School destroyed.
Honeoye Falls, N. Y.—Beam Milling Co. plant in downtown section damaged. Tar boiling in a vat bubbled over.
Lake Placid, N. Y.—Pilgrim Holiness Church destroyed.
Liverpool, N. Y.—St. Matthew's Episcopal Church destroyed.
Lowville, N. Y.—Garage, food market and men's shop in business district, destroyed. Oil burner.
Port Chester, N. Y.—Building housing Miller & Black, Inc., furniture store, Great Scott Food Supermarket, several small stores and Ledman Dress Manufacturing Co., badly damaged.
Portageville, N. Y.—Tavern and restaurant at Letchworth Court destroyed.
Swan Lake, N. Y.—Swan Lake Hotel, a summer resort, eight miles west of Monticello, destroyed.
Rockville Centre, N. Y.—Business and apartment building, including fish shop and luncheonette, and adjoining Evans Amityville dairy garage, destroyed.
Scottsville, N. Y.—Dorey Corrugated Paper Products, Inc., damaged.
Silver Creek, N. Y.—Powers Hotel in business section destroyed. Smoking in bed.
Syracuse, N. Y.—Apartment building destroyed.
Syracuse, N. Y.—Apartment building on east side of city at 713 E. Fayette street destroyed.
Watervliet, N. Y.—Seven attached houses in center of city, operated as rooming houses, destroyed. Defective wiring.
Charlotte, N. C.—Withers Manufacturing Co., garment factory, damaged.
High Point, N. C.—Davidson Hosiery Mill Co. damaged.
Jamestown, N. C.—Oakdale Community Center destroyed.
Sanford, N. C.—Masonic Lodge building in Jonesboro Heights damaged.
Bergholz, Ohio—Allen Box Co. factory destroyed.
Circleville, Ohio—Maizo Mill destroyed.
Cleveland, Ohio—Dornback Furnace & Foundry Co. damaged.
Columbus, Ohio—Downtown drug and chemical wholesale house of Kauffman-Lattimer Co. destroyed.
Painesville, Ohio—Building used for storage by the street department destroyed.
Eugene, Ore.—Francis Willard Grade School destroyed.
Portland, Ore.—Neustadter Building, housing Pacific Distributor Plastics, D. C. Wax Co., damaged.
Portland, Ore.—Elmer H. Bloomquist warehouse and apartments destroyed.



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Chestnut Level, Pa.—Barn on Ross E. McCauley farm destroyed.
Frackville, Pa.—Coal breaker destroyed. Stove explosion.
La Jose, Pa.—Garage-apartment building, store and a dwelling destroyed.
Mt. Carmel, Pa.—Dwelling of John Milbaum destroyed and 10 neighboring dwellings damaged.
Norristown, Pa.—Furniture warehouse leased by Norristown Furniture Co. destroyed.
Philadelphia, Pa.—Building occupied by Samuel Galespie Co. destroyed.
Philadelphia, Pa.—Arch Master Shoe Shop and four adjacent stores damaged.
Port Allegany, Pa.—Diesel locomotive unit on Pennsylvania Railroad freight train, 5 miles south, damaged. Explosion.
Smithfield, Pa.—Buildings of Ramsay Lumber Co. destroyed.
Uniontown, Pa.—Old Montague home, which has been converted into a restaurant, destroyed.
Pawtucket, R. I.—Pawtucket Golf Club damaged. Defective ice-maker.
Humboldt, S. D.—Commander Grain Elevator destroyed.
Winner, S. D.—Johnson Ice Cream Co. plant destroyed.
Knoxville, Tenn.—Dixieland Drive-In Restaurant destroyed. Sparks from broiler.
Nashville, Tenn.—General Shoe Corp. warehouse damaged. Defective wiring.
North Memphis, Tenn.—Veisicol Corp. destroyed
Rutherford, Tenn.—Four downtown buildings destroyed.
Summertown, Tenn.—Summertown Elementary School destroyed. Defective electrical fixtures.
Bryan, Tex.—The Lily Ice Cream Manufacturing Co. and adjoining United Furniture & Appliance Co., in heart of downtown, damaged.
Blackstone, Va.—Spindler Milling Co. plant destroyed.
Charlottesville, Va.—Nelson Brown Gift Shop destroyed.
South Boston, Va.—Princess Theatre destroyed.
Kelso, Wash.—Carpenter apartments and contents of thirty units destroyed.
Kelso, Wash.—O'Henry apartments destroyed.
Spokane, Wash.—Buckhorn Airway Restaurant destroyed.
Brenton, W. Va.—Building housing a general store and apartments in Wyoming County community destroyed. Oil stove.
Charleston, W. Va.—Criss and Shaver, Inc., machine shop destroyed.
Wautoma, Wis.—Store and stock of Hunt School and Office Supply Co. destroyed; Waushara County Argus newspaper and printing plant, A. & P. Food Store, Boyd Tavern, Martin Tailor Shop, Wagler Photo Studio and Earl Kileen law office adjoining, damaged. Defective space heater.
Torrington, Wyo.—Wigwam bakery destroyed.
Redwater, Alta.—Imperial Oil Co. lumber yard destroyed.
Regina, Alta.—Saskatchewan Power Corp.'s main warehouse on northern outskirts destroyed.
Cap Aux Meulesson, Magdalene Islands—Canapro herring warehouses and fish powder factories destroyed.
Halifax, N. S.—Warehouses of Commercial Equipment Co. and Payzant and King on Iring Co. wharf destroyed.
St. Bruno, Que.—Roman Catholic Church in Lake St. John area destroyed.
Ste. Marie de Bauce, Que.—Wooden hotel destroyed.
Sherbrooke, Que.—Club Sociale de Sherbrook destroyed.
Weyburn, Sask.—Royal Hotel destroyed.

Congress After Bootleg Fireworks

Representative Marguerite S. Clark (R.-Ill.) appealed on Jan. 12th for a Federal law blocking shipment of bootleg fireworks, which she said, cause "wholesale injury and slaughter each year."

Appearing before a Senate judiciary subcommittee, she said Congress should help eliminate the problem by banning interstate shipment of fireworks into areas where they are prohibited by state law.

But producers of firecrackers and other exploding or sparkling devices said the bill sponsored by Mrs. Church would put the industry out of business. The president of a So. Pittsburgh, Tenn., fireworks firm urged approval of measures authorizing the government to permit shipment of "safe and sane" fireworks.

He suggested the Interstate Commerce Commission or the Federal Bureau of Mines might establish standards for the devices, completely banning some and allowing others.

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DEPT. 27

With Our Readers

Assurance from Puerto Rico

To the Editor:

As Fire Chief of Puerto Rico, I want to assure the Fire Chiefs of every city and town of the United States that the immense majority of the people of Puerto Rico are indignant at the unbelievable and criminal aggression of which members of the United States Congress have been victims. This criminal attempt has been perpetrated by lunatics interested only in desecrating the will of the two and a half millions of Puerto Ricans and the love they share with the people of the United States for the cause of freedom and democracy.

RAUL GANDARA, Chief,
Fire Service of Puerto Rico

(via cablegram)
San Juan, P.R.
March 2, 1954

To those of us who have enjoyed the hospitality of the Puerto Rican people in their island home, Chief Raul Gandara's assurance of their affection and loyalty to the United States is superfluous. A friendlier, more kindly people would be difficult, if not impossible, to find anywhere in the world.

Unfortunately, there are always a few revolutionaries in every country who will stop at nothing in their efforts to create international tension, or overthrow democratic governments—Editor.

Helsingfors Steps Up Training

To the Editor:

We have started the new year with many good intentions, among them the decision to step up effective training for our firemen. Last year I led some instruction courses, and this year I will do more of the same.

I send you a photograph picturing the latest firemen who have taken the course of training. The boys are all farmers and they were very appreciative of the training given them.

The Helsingfors Fire Volunteers will be 90 years old this spring.

In November and December your Roi Woolley wrote about ventilation and I was very pleased with the valuable support this gives a chief; I only wish it had come sooner.

What you have published about ladders and their use is very valuable information for a fireman and it is with pleasure that I have seen the articles published in book form.

Now some lines about the telephone alarm system. We started with a new L. M. Ericsson system some years ago and have had good results from it. We have a new type of street boxes with telephones connected to an alarm central in the telephone company. The person needing help can immediately be in communication with police, fire department, ambulance, water works, etc., and need not wait as in the picture in the December FIRE ENGINEERING (page 1095, cartoon depicting a British householder in a queue before a street kiosk waiting to telephone an alarm, while his house burns in the background). When you open the box a lamp in the alarm central shows where the box is located. The ordinary fire department number is 005.

CARL W. ASTRÖM
Chief, Helsingfors Fire Department

Purdue Arson Investigators' Seminar

The Tenth Annual Seminar and Training Course for Arson Investigators will be conducted at Purdue University, Lafayette, Indiana, May 3 to 7, 1954, according to an announcement by Professor Shelby Gallien, Director of Purdue's Public Safety Institute.

This seminar and training course offers an opportunity for specialized study and discussion of arson investigation problems under the guidance of outstanding police and fire specialists from all parts of this country and Canada. The seminar is conducted by the Public Safety Institute of Purdue University, with the cooperation of local, state and national organizations interested in arson control and prevention.

Since its establishment in 1945, the Purdue Arson Investigators' Seminar has achieved international recognition as the center for such specialized training. Being the only program devoted exclusively to the study of arson detection and investigation, the seminar is attended each year by persons from the United States, Canada and other countries. It has been widely endorsed by leading fire, police and insurance organizations as a valuable medium for the training of those persons charged with the responsibility for fire investigation.

The effective detection and investigation of suspicious fires is recognized today as an important phase of public safety. It is also recognized today as a technical and somewhat specialized field requiring first hand knowledge of modern techniques and methods. Present trends indicate a steady increase in the number of set fires and the use of even more ingenious methods by the arsonist to escape detection. These factors place an even greater responsibility for effective action on the part of all agencies dealing with the investigation of suspicious fires.

Graduating class from Helsingfors, Finland, Fire Department

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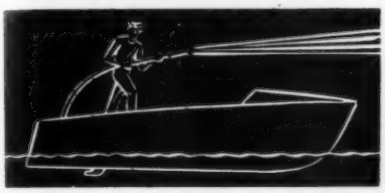

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Box 7 Founder Gets Tribute

The late Robert C. Kohnle, one of the founders of the Box 7 Association, Dayton, Ohio, fire buff organization, received a tribute from the Dayton and the Oakwood, Ohio, Fire and Police Departments last October 21st, during the annual inspection of the Police Division in Riverview Park.

Dayton fire and police officers display flags honoring R. C. Kohnle.

At his death in 1952, Mr. Kohnle was chairman of the board of the Monarch Marking System, and secretary of the Box 7 Association, which he helped organize some 25 years ago to further the interests of the Dayton and Oakwood Fire Departments.

The family, at the time of his death, asked that flowers be omitted and a contribution made to Box 7, which used the money thus received to purchase both American and departmental flags for the Dayton Fire and Police Divisions, and the Oakwood Fire and Police Departments. Each of the flag staffs carries a bronze plate inscribed as a permanent memorial to Mr. Kohnle.

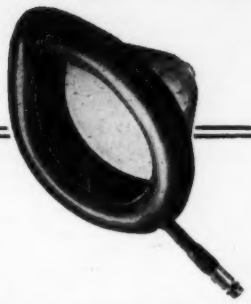
The eight flags were presented in an impressive formal ceremony, at which were personnel and equipment from all divisions, as well as Mayor M. Lohrey of Dayton, Council President Earl J. Bates of Oakwood, City Manager Herbert Starick of Dayton and City Manager O. C. Bergman of Oakwood.

The flags were accepted on behalf of their respective departments by Dayton Fire Chief Forrest B. Lucas, and Col. M. C. Kirkpatrick, Dayton Chief of Police, and Hubert Farler, Chief of Oakwood's Fire and Police Departments.

Connecticut Town's Defenses Down

The city of Winsted, Conn., population about 8,800, and an area of light manufacturing, will abandon its Civil Defense program March 1 "because of lack of public interest," its selectmen announced.

Under Connecticut state law, every town must have a Civil Defense program, but Winsted's Mayor Francis P. Hicks says "I don't care what state or Federal law has to say about Civil Defense. We're spending $2,200 a year for Civil Defense and not getting anything for our money. Why spend it?"



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LOOK . . . LOWER PRICES THAN OUR LAST LISTINGS

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1½"x50' SJ CRL fire hose, unused but soiled ..... $ .26 ft. cpld.
2½"x50' SJ CRL fire hose, unused but soiled ..... .44 ft. cpld.

UNUSED & CLEAN FACTORY PACKED

1½"x50' SJ CRL fire hose.....$ .40 ft. cpld.
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2½"x50' Rubber covered water hose ..... .90 ft. cpld.
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FULL COMPLEMENT OF LADDERS

PORTABLE LIGHTING SYSTEM

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1942 HENNEY-PACKARD
1939 HENNEY-PACKARD
1938 HENNEY-PACKARD

COACH AND EQUIPMENT SALES CORP.
2 Main Street Penn Yan, N. Y.

New York Distributor
HENNEY-PACKARD AMBULANCES,
Sr. and Jr. Models
Complete service including body and chassis

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1932 Pierce-Arrow Squad Car, Canopy removable top—Very good condition.. $ 500.00

1938 Stewart Emergency Truck with new Canopy Top—New 500 GPM front mounted Pump—New 200 gallon Tank, Booster Hose and Booster Reel..... 2500.00

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New 1953 Chevrolet Chassis with 2-speed axle—Cab and 8.25 by 20" Tires—Hale 500 GPM Rotary Gear Pump—500 gallon Tank—2 Hose Reels and complete equipment. This is a floor sample and has never been in service 7300.00

Wire or write W. J. Lawless, 207 W. 3rd St., Elmira, for complete specifications or come to Elmira for demonstration.

W. J. LAWLESS
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Elmira, N. Y.

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Authentic Early American Fire Apparatus reproduced on 5½" round white china ashtrays, 8 designs featuring old favorite HAND & HORSE drawn apparatus—$1.50 ea. post paid. Quantity prices on request.

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must sell the following, 1952 Cadillac Meteor. 1950 Cadillac Superior, $3500.00. 1942 Packard Henney, extra equipment, $875.00. Photos sent on request. Write Box 105, Fire Engineering, 24 West 40th St., New York 18, N. Y.

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'44 Mack Fire Truck . . . equipped with 500 GPM Hale pump, very clean, equipped with siren, blinker lights, inlets and outlets, ladders, appearance good, bright red with lots of chrome. $2,250 f.o.b. Atlanta.

'43 Seagraves Model 80-E . . . equipped with 750 gallon pumper, equipped with siren, blinker lights, inlets and outlets, ladders, appearance good, bright red with lots of chrome. $2,500 f.o.b. Atlanta.

Additional information and photos upon request.

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1½" DOUBLE JACKET
OUR BEST $ $ $ VALUE TO DATE
50 FT. LGTHS. CPLD. NST OR IPT

Just received a special lot of 200 selected lengths. Hose is soiled but in excellent working condition. 400 lb. test type hose.

WHILE IT LASTS, ONLY

$ .45 FOOT CPLD.

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Phone VAlley 3-1672

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UNDERWRITERS' GRADE
NEW FACTORY STOCK

A Top Brand Name We Cannot Advertise. Fresh, Current Date, Absolutely Clean, Perfect and Full Test. Sold on a Money-Back Guarantee. In Original Cartons. Brass Pin-Lug Couplings Applied in Any Specified Threading.

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1" x 50 Ft. SJ. Coupled ..... $0.44 Ft.
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ATTENTION ALL FIRE DEPTS.

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TORN BOOT TOPS REPLACED,
—15 inches up from center seam, $4.25 pair.
SAVE MONEY. ALL WORK GUARANTEED.
We pay return parcels post.

GODFREY RUBBER CO., Inc.
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3 AMERICAN LAFRANCE 750 GPM PUMPERS

Complete with or less 2½ & 1½ hose and nozzles. Prices $2950 to $8450. Guaranteed first class condition. Will pay 10% sales commission. Write for complete details. TOM FERGUSON COMPANY, 2402 Grand, Kansas City, Mo.

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1930 American-LaFrance, 6 cylinder, completely equipped hook and ladder in excellent condition. Further information on request.

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Nationally known apparatus manufacturer has territories available in Mid-West and South. Write at once giving qualifications and experience. Box 100, c/o Fire Engineering, 24 West 40th St., New York 18, New York.

APPLY IMMEDIATELY

Ground floor opportunities as sales representative with Notifier's latest Underwriters' listed equipment. Fully automatic supervised systems signaling from protected property into fire station.

Visit our factory
or write now!
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NOTIFIER MANUFACTURING CO.
239 South 11th St.
Lincoln, Nebraska

FOR SALE

One 1923 American-LaFrance type 75 pumper and hose wagon, Registered No. 4533, 750 GPM reconditioned rotary pump, excellent condition; pneumatic tires, motor unserviceable. No auxiliary equipment.

One 1923 American-LaFrance type 38-39 pumper and hose wagon, Registered No. 4532, 600 GPM rotary pump, pneumatic tires. At present in service.

Both pumpers available for inspection at Woodland City Fire Station. For additional information, contact City Manager, City Hall, Woodland, California.

McINTIRE GATE VALVES

Fig. 164AN

4½" swivel female x two 2½" male Gated Siamese. Quick opening, ¼ turn valves.

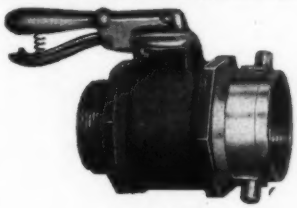

Fig. 163

Made either Right Hand or Left Hand 2½" male x female, gate valve.

F. N. McINTIRE BRASS WORKS

377 PUTNAM AVE., CAMBRIDGE 39, MASS.

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Recognized by the Fire Service as Standard

Questions and Answers for Lieutenant and Captain—$2.50

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(The Above Prices Are All Postpaid)

CASE-SHEPPERD-MANN PUBLISHING CORP.

24 West 40th Street
New York 18, N. Y.

News of the Manufacturers

(Continued from page 263)

chlorobromomethane as the fire extinguishant. Present extinguishers of the wheeled-type are either carbon dioxide, soda-acid or foam extinguishers.

Stop-Fire, Inc., developed the USAF's Type A-20 and Type D-1 and D-2 portable stored pressure, chlorobromomethane fire extinguishers.

New Type Emergency Hand Lamp

A new combination portable electric hand lamp and flashing red beacon, having distinctive features, is announced by U-C Lite Manufacturing Company, 1050 West Hubbard Street, Chicago 22, Ill.

The new "beacon" lamp which becomes a new member of the "Big Beam" family of hand lamps, electric flares and automatic emergency lights produced by U-C, is available in both sealed beam and standard bulb models. It features an exclusive two-position flashing beacon. The beacon arm folds down over the handle to serve as a tail light. In this position the beacon lamp not only lights the way ahead, but also flashes a warning to the rear. When raised upright, the red flasher becomes a tower beacon, assuring unobstructed visibility from all directions when placed on the ground or atop vehicle.

The lamp and beacon operate either independently or together. The beacon lamp can be used as a hand lamp only, as an emergency or signal light only, or as a combination of the two. Lamp and beacon are powered by one standard 5-volt lantern battery housed in a steel case with red baked-on enamel. Complete colored descriptive literature is available.

Book Shelf

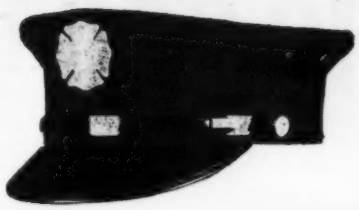
ARSON—by Brendan Battle, Special Agent, Arson Department, National Board of Fire Underwriters; and Paul B. Weston, Deputy Inspector, New York City Police Department; 304 pages, profusely illustrated; Greenberg, Publisher, 201 East 57th Street, New York 22, N. Y.; Price, $3.75, postpaid.

This well written handbook shows how to trace the source of a fire, how to recognize the work of fire setters, techniques for establishing motives, ways of gathering evidence and preparing a case for prosecution, and many other aspects of the crime.

Chapter 1 covers suspicious fires in general; Chapter 2 gives details on "touch offs;" Chapter 3, Alibis, motives and the corpus delicti; Chapter 4, Fires for profit; Chapter 5, Hate as a basic motive; Chapter 6, Pyros; Chapter 7, Crime and arson; Chapter 8, Basic lines of inquiry; Chapter 9, The fire scene; Chapter 10, Interviews and interrogations; Chapter 11, Evidence; Chapter 12, Preparation of the case; Chapter 13, Arson rings; Chapter 14, Responsibility for detecting arson.

The authors are to be commended for the clarity with which the various subjects are treated, and for the completeness with which they cover the many topics.

"Arson" should prove a valuable guide to fire officers who are concerned with reduction in arson losses and for those whose task it is to build cases for successful prosecution.



Because-

Your cap is the most distinctive part of your uniform, be sure to specify the best.

Ask your dealer to supply BRUNSSEN'S Helmet Brand Firemen Caps or write to us direct.

George Brunssen Co. Inc.

Manufacturers of Uniform Headwear for Hard Wear

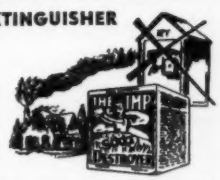
106 BLEECKER ST., NEW YORK 12, N. Y.
Est. 1852

Brunssen Caps

Chief---

CAN YOU PUT OUT A CHIMNEY FIRE for 65¢? —YOU CAN WITH IMP

CHIMNEY FIRE EXTINGUISHER



Save rushing to chimney fires—avoid slippery roofs by using IMP Chimney Fire Extinguisher. Just throw a 65c package "as is" on the hottest part of the fire in the stove, furnace or fireplace. The chimney fire will be out in jigtime without water or chemical damage. Recommended by many chiefs who carry IMP in their cars. ALSO—LIQUID IMP for *oil fired units*, is as much a fire preventative as pkg. IMP. Saves oil, money, increases heat, prevents sludge, reduces carbon deposits and is safe. You know what a fire hazard sludge is. Use LIQUID IMP in your own burners. 3½ oz. enough for 90 gals. kerosene or 55 gals. No. 2 fuel oil; 16 oz. enough for 5 times above quantity; 1 gal. enough for 1600 gals. #2 fuel.

USE THIS COUPON FOR YOUR ORDER

F. C. FOARD & CO., Box 481, Bridgeport 1, Conn.

Please send.....doz. package of IMP @ $7.80 per doz.
and/or.....doz. 3½ oz. Liquid IMP @ $9.00 per doz.
.....doz. pint Liquid IMP @ $27.00 per doz.
.....quarts Liquid IMP @ $4.00 per qt.
.....gallons Liquid IMP @ $14.00 per gal.

I will honor your bill f.o.b. Bridgeport.

NAME .....

ADDRESS .....

CITY..... STATE.....

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Add package and Liquid IMP to your line.
Write TODAY for special distributor Plan.

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with half the weight!

in half the space!

MODEL 10CW
10,000 watts A.C.
Gasoline-powered

the New ONAN "10 CW" Electric Plant

Check these advantages!

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- ★ Aluminum-alloy cylinder heads.
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Costs less than any other complete electric plant!

You can't match it anywhere in performance, equipment or value. The sensational new Onan 10CW gives you everything you've wanted in an electric plant plus exceptional mobility for a unit of its capacity.

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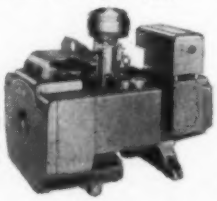
Model 5CW
5,000 watts

Same advanced design as the 10CW with all its exclusive advantages. Built for heavy duty, economical operation.



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5723 University S.E. • Minneapolis 14, Minnesota

ADVERTISING INDEX

MARCH, 1954

	Page
Aluminum Ladder Co.	261
American Fire Equipment Co.	266
American LaFrance-Foamite Corp.	199
American-Marsh Pumps, Inc.	182
American Rubber Mfg. Co.	201
Ansul Chemical Co. Fire Extinguisher Division	*Inside Back Cover*
Aquadyne Corporation	267
Army's Fire Service	254
Atlas Safety Equipment Co., Inc.	271
Audio Equipment Co., Inc.	268
Bar-Way Mfg. Co.	236
Beacon Falls Rubber Footwear Div., U. S. Rubber Co.	243
Bean Div. John; Food Machinery & Chemical Corp.	185
Blackinton & Co., Inc., V. H.	249
Boardman Co., The	205
Body Guard Mfg. Co.	264
Braxmar Co., C. G.	246
Brunssen Co., George	273
C-O-Two Fire Equipment Co.	196
Cairns & Bro.	247
Circul-Air Corp.	254
Cycle-Flo Co.	262
Daniels, Inc., C. R.	250
Darley & Co., W. S.	265
Dayton Fire Equipment Co.	269
Duo Safety Ladder Corp.	191
DuPont DeNemours & Co., E. I.	195
E & J Manufacturing Co.	271
Eastman Co., Samuel	252
Elkhart Brass Mfg. Co., Inc.	235
Emerson Co., J. H.	*Inside Front Cover*
Eureka Fire Hose Div., U. S. Rubber Co.	233
Everson-Ross, Inc.	265
Fabric Fire Hose Co.	181
Fairbanks, Morse & Co.	259
Federal Enterprises, Inc., Signal Div.	179
Fire-Lite Alarms	267
Foard & Co., F. C.	273
Four Wheel Drive Auto Co.	*Back Cover*
Fulton Bag & Cotton Mills	256
Fyr-Fyter Co.	239
Fyr-Larm Co., Inc.	237
Gamewell Co.	210
General Detroit Corp., The	263
General Pacific Corp., The	263
Globe Mfg. Co.	259
Goodrich Co., B. F.	183
Greenberg: Publisher	258
H & H Fire Apparatus Co.	257
Hale Fire Pump Co.	260; 263
Hannay & Son, Inc., Clifford B.	188
Harodikes, Inc.	255
Hewitt-Robins, Inc.	190
Homelite Corp.	203
Industrial Safety Specialties Co.	240
International Harvester Co.	192
Janesville Apparel Co.	267
Kermath Manufacturing Co.	271
Leece-Neville Co.	184
McCulloch Motors Corp.	186
McIntire Brass Works, F. N.	273
Mack Mfg. Co.	209
Mann Edge Tool Co.	266
Marine Products Co.	253
Maxim Motor Co.	202
Memco Aerial Ladder	269
Midwestern Mfg. Co.	200
Mine Safety Appliances Co.	207
Motorola, Inc.	204
Mueller Co.	252
National Foam System, Inc.	206
Oberdorfer Foundries, Inc.	255
Onan & Sons, Inc., D. W.	274
Oren Roanoke Corp.	248
Overhead Door Corp.	198
Pacific Marine Supply Co.	242
Pacific Reflex Signs	267
Perfex	264
Powhatan Brass & Iron Works	244
Quaker Rubber Corp., Div. H. K. Porter Co., Inc.	241
Republic Rubber Div., Lee Rubber & Tire Corp.	208
Rockwood Sprinkler Co.	189
Russell Uniform Co.	271
S-T Hydrant Wrench Co., The	269
Scott Aviation Corp.	245
Seagrave Corp., The	187
Sharpsville Steel Fabricators	250
Sireno Co., Inc.	270
Smith & Co., D. B.	193
Stephenson Corp.	253
Sterling Siren Fire Alarm Co., Inc.	260
Super-Vacuum Mfg. Co.	261
Superior Signal Co.	268
Thiele & Sons, Inc., W. J.	238
U-C Lite Mfg. Co.	270
Unox Co., Div. McFarland Mfg. Corp.	257
W-B Manufacturing Co.	251
Ward LaFrance Truck Corp.	194
Wentworth-Forman Co., Inc.	269
Wooster Brass Div., Fyr-Fyter Co.	197

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MORE EFFECTIVE... MORE DEPENDABLE

FIRE-STOPPING POWER

MODEL 20-B

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Chemical Company
FIRE EQUIPMENT DIVISION • MARINETTE, WISCONSIN

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FASTER . . . A short, quick downward motion of the puncture lever pressurizes the extinguisher and it is ready for instant use.

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DRY CHEMICAL FIRE EXTINGUISHING EQUIPMENT, REFRIGERATION PRODUCTS, INDUSTRIAL AND FINE CHEMICALS AND LIQUEFIED GASES

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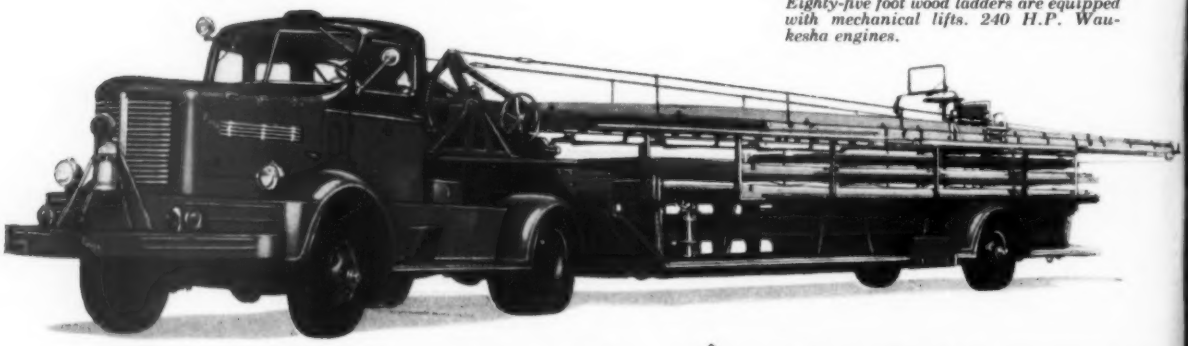
The City of Chicago purchased twelve of these FWD Model FA85K Aerial Ladder Units, along with one additional tractor. Eighty-five foot wood ladders are equipped with mechanical lifts. 240 H.P. Waukesha engines.



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Ask for your copy of "FWD Fire Engines": photos and descriptions of FWD equipment carefully chosen by communities all over the country. Let it help you make your choice!

FWD Fire Engines

THE FOUR WHEEL DRIVE AUTO CO., CLINTONVILLE, WIS., *Canadian Factory,* KITCHENER, ONT.

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